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NORTH CAROLINA MEDICAL JOURNAL.

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CONTENTS:

ORIGINAL COMMUNICATIONS:

Report of a Case of Dermoid Tumor of the Cornea and Sclerotic, by Kemp P. Battle, M. D. 1
The Mental Factor in the Causation and Cure of Disease—Being the Annual Oration before the Medical Society of North Carolina at its Thirty-Sixth Annual Meeting, by R. L. Payne, Jr. M. D. 4
A Case of Spontaneous Thombosis of the Pulmonary Artery following Labor with Recovery, by John M. Faison, M. D. 15

SELECTED PAPERS:

A Murderer's Dying Confession Disproved by Surgical and Anatomical Facts, by Benj. E. Cotting, M. D. 20
Therapeutics of Infancy and Childhood, by A. Jacobi, M. D. 31
Aphorisms in the Treatment of Urethral Stricture, by A. W. Stein, M. D. 39

EDITORIAL:

All N. C. Physicians must Register in the Office of the Clerk of the Superior Court before January 1st, 1890 43
Guilty of Misdemeanor and Liable to Fine and Imprisonment for Practising without a License 44
Ehrlich's Test for Typhoid Fever 45

REVIEWS AND BOOK NOTICES:

Atlas of Venereal and Skin Diseases, with original text, by Prince A. Morrow, A. M., M. D 46
Diphtheria: Its Nature and Treatment, by C. E. Billington, M. D., and Intubation in Croup, by Joseph O'Dwyer, M. D. 47
A Guide to Therapeutics and Materia Medica, by Robert Farquharson, M. P., M. D. 48

CURRENT LITERATURE:

Value of Salicylic Acid in Dermatoligy 49
The Prevention of Tuberculosis 52
Plegmon of the Hand 56
Prognosis in Heart Disease 61
Nitrete of Silver in Purpura Hæmorrhagica 67
The Biliary Secretion in Man 68
A New Mode of Administering Cod Liver Oil 69
Splenectomy—Recovery—Condition of the Blood a Year afterwards 70
Psoralea—Buck-Root 71

CORRESPONDENCE:

Calomel and Bicarbonate of Soda 72

NOTES:

Antifebrin; Antipyrin; Antipyrin in Chorea and Tetanus; Salol as an Antiseptic 73
Chloroform Deaths in Obstetric Practice; What does this mean?—A Medical Journal "Trust." 74
Insane in the United States; Treatment of Tabes by Suspension 75
Salufer; Investigation of Strychnine Poisoning 76
Accidental Vaccination; Mercurial Vapor in Croup; Inguinal Ectopia 77
The Testicle as a Rejuvenator 78
Simple Test for Sugar; Honors to Dr. J. S. Billings 79
READING NOTICES 80

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Number 1. Wilmington, July, 1889. Vol. 24.

ORIGINAL COMMUNICATIONS.

REPORT OF A CASE OF DERMOID TUMOR OF THE CORNEA AND SCLEROTIC.

By Kemp P. Battle, M.D., Raleigh, N. C.

J. J., a colored boy fourteen years of age, applied for treatment March 18 for a congenital growth on the eye, which had been slowly, but steadily, increasing in size, was unsightly and interfered with vision. The tumor occupied the lower and outer third of the cornea, encroaching upon the pupil nearly to its center, and a still larger space on the adjoining sclerotic. Its shape was hemispherical except that the lower part was prolonged downward under the lower lid, the broadest part being at the point of attachment to the normal structures. The transverse diameter of the base was ten millimetres, of the vertical twelve. The surface was smooth and pinkish except towards the apex, where it approached very nearly to the character

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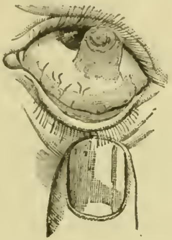
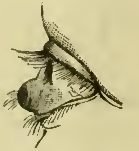
of ordinary cuticle, being roughened and pigmented and bearing several short black hairs. The tumor was very dense in structure, but, though solid, the surface could be easily depressed, and there was a deceptive feeling of fluctuation. It was slightly movable where united with the sclerotic, but firmly fixed upon the cornea. Vision in this eye was $\frac{20}{200}$, in the other $\frac{20}{20}$.

The situation and size of the growth are represented in the accompanying cuts :





In preparing for the operation ether was preferred to cocaine because of the youth of the patient and the delicate nature of the work required. It was necessary to have complete control of the movements of the globe. It had been found, moreover, by trial, that a four per cent. solution of cocaine had little effect upon the dermoid tissue.

The dissection was begun with fine-pointed scissors, but in cutting away the corneal portion of the tumor the most suitable instrument was found to be the short, curved, round-pointed knife made for scarification. The separation from the sclerotic was easily accomplished, but, owing to the abnormal tissue being deeply imbedded in the cornea and thoroughly incorporated with it, some thin remnants of the growth were left, as is unavoidable from the nature of such cases. The part of the cornea not involved was thin, and it was necessary to guard against the introduction of the knife into the anterior chamber. There was some bleeding from a small artery, but this was promptly stopped by torsion, and the loss of blood from the operation was trifling in amount.

The boy did not report himself for inspection as regularly as directed, and as the wound healed a point of exuberant granulation sprung up at the situation of the artery which had been twisted. This grew until, when he was next seen, there was a growth like a toadstool in shape—the pedicle being very short and the expanded surface five millimetres in diameter. The pedicle was snipped with scissors and the point of attachment for several days afterwards was touched with solid nitrate of silver, and healing progressed without further trouble.

Solid dermoid tumors are comparatively rare, much more so than the better known dermoid cysts often seen in the neighborhood of the eye. They are congenital, and since the anterior parts of the eye-ball are formed in fœtal life from the external integument, the theory that they result from an imperfect development is no doubt correct. This is further indicated in the present case by the fact that there were congenital malformations in neighboring parts. A flattened teat, about half an inch long, of cartilage and skin, was attached to the anterior aspect of the tragus. These dermoids are not often found larger than in this instance, but are generally smaller and usually situated on the sclerotic. Nor do they always have a tendency to enlargement, and so, even when situated partly on the cornea, they may never extend towards the pupil. In such cases the chief indication for an operation is the correction of an unsightly deformity, since the sight of the eye may never be interfered with.

THE MENTAL FACTOR IN THE CAUSATION AND CURE OF DISEASE—BEING THE ANNUAL ORATION BEFORE THE MEDICAL SOCIETY OF NORTH CAROLINA AT ITS THIRTY-SIXTH ANNUAL MEETING.

By R. L. Payne, Jr., M.D., Lexington, N. C.

(Read before the Medical Society of the State of North Carolina, at Elizabeth City, April 16, 1889.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

It is with mingled feelings of pride and trepidation that I attempt to address an audience representing the combined intellect of the medical fraternity of North Carolina. Long years ago, when my revered father came home from one of your meetings and announced to his waiting family that he had been chosen your orator, I (the little boy standing by) felt that a distinct epoch had occurred in our family history, and my little heart, swelling with pride in the dear parent, in childish imagining I wondered if to be the orator of the North Carolina Medical Society was not the culmination of earthly distinction. Can you wonder, then, that from that hour my heart was filled with longing to be one of your number, or need I tell you how insidiously the ambition crept into my very being that I, too, might deserve some honor at your hands?

And now, fellow-members, though the lapse of years nd the facinga of life's stern realities have served to dispel so many illusions of my childhood, time has only intensified my admiration for this Society, made up, as it is, so largely of men of profound learning, broad philanthropy and exalted religious conviction, and my pride in being your orator to-night, would know no limit, acknowledge no bound, were it not tempered and chilled by the feeling of my entire incompetence to do you, in the smallest measure, the honor which my heart teaches me you deserve and the occasion demands.

Oh, how, with untold longing, I crave, for this one time, at least, the divine gift of eloquence! And how utterly destitute and inadequate are the feeble words that come faltering into expression! The hour was made for genius! The occasion is one suited to the display of the most profound intellectual attainment, the most brilliant scintillations of wit, the highest oratorical power, and therefore before it I stand confused, abashed.

Oh! thou ethereal spirit of eloquence divine, come now, if but for the nonce, and touch with thine animating power these faltering lips! Instill within me but a drop of thy divine essence, that I may speak thy language this night!

Alas! alas! the invocation is all of no avail, and with many misgivings I approach the study of that theme which I trust you will not deem unworthy of your consideration—

THE MENTAL FACTOR IN THE CAUSATION AND CURE OF DISEASE.

I think I may submit as an axiom that, to what extent and in whatever direction the legitimate practice of our profession fails to come up to the needs of the public or to gratify the curiosity of the people at large, to that extent does charlatanism thrive, and in that direction does quackery find its most congenial soil. I think I may further submit that no error can long be promulgated with success unless it has some element of truth as its basis, and therefore the success which has attended such absurdities as cure by the royal touch—the mad-stone—the mind-cure—and the sometimes remarkable results attained by the so-called Christian scientists by the "laying on of hands and anointing with oil," bespeak the attention of thoughtful physicians as wonderful evidences of the controlling influence of the mind over the body.

Let us but realize that "there are over thirty 'faith-homes' in America te-day; that in England and on the continent of Europe can be found a larger number—some of these commodious institutions, with a history of many decades of years." That these institutions are handsomely supported by a credulous public, and that in these faith hospitals are brought about many remarkable cures of real and fancied ills, and then, since it is apparent that these cures are wrought through the agency of strong mental impression, we can but feel there is something practical in the question, Have we, as physicians, given a proper degree of consideration to the mental factor in the causation and cure of disease?

Watch the hypochondriac, as he sits wrapped in his own gloomy anticipations, or study the legerdemain of the conjurer hysteria, and tell me how much of the disordered function, the disturbed secretion, the faulty digestion, the contracted limbs, the chokings, the chillings and flushings are due to pathological change, and how much to disordered imagination and impaired will power.

On the other hand, no unbiased student can doubt that Perkin, with his tractors; Prince Hohenlohé, with his prayers; the waters of the sacred spring at Lourdes and the mental effect of pilgrimages to any one of an hundred noted shrines, has often brought about the cure of disease, and it matters not that we may say to ourselves, "'Twas but the effect of the imagination;" the fact remains that in many well authenticated cases the maladies were in no wise imaginary, but the result of true pathological change.

The medical systems of all barbaric nations owe most of their potency to the effect of strong mental impression, and to-day, in our own civilized land, there is scarcely a hamlet which does not boast some much revered dame who, with mystic wands, "cures for erysipelas" or gives relief to painful burns by "blowing the fire out."

The success which has attended water-cures and steam doctors, ay, much of the good of the electric-current and of the now popular massage, and perhaps all the happy ends attained by the little sugar pills of our homœpathic friends should be attributed to a mental agency. Upon one occasion a lady of my acquaintance (and quite an intelligent woman she was) suffered from a neuralgia which proved intractable to the recognized remedies applied by one of our own profession. At the solicitation of a friend she procured some homœpathic pellets—a sure cure for neuralgia—and on the same day she received some flower-seed from a friend. Suffice it to say that in a few short hours she was cured. The pain had vanished and she began to sing a song in praise of the new medication which knew no ending till a few weeks later, her flowers not putting in an appearance, investigation showed she had sowed the pellets and swallowed the seed.

In the days when mesmerism occupied the public fancy many cures of various maladies were attributed to its agency, and to-day, under the new nomenclature of hypnotism, some of our most skilled neurologists assert its power to subdue otherwise intractable ailments. In England for centuries scrofula was cured by the royal touch, and history tells us that in 1744 the prospect of a naval engagement between the British and allied fleet had the effect of checking the scurvy.

Our own Dr. Rush, than whom few greater or more competent observers have ever lived, records many cures effected during the exciting days of the Revolutionary War through a mental agency, and the celebrated case reported by Sir Humphrey Davy, in which a paralysis was relieved by the daily insertion of a clinical thermometer under the patient's tongue, is a familiar example of what hope and confident expectation may accomplish.

The power of attention fixed upon a part to effect nutritive change is well illustrated in the story of Bacon's warts. The warts were removed by a lady who, rubbing the new growths with a piece of fat meat-skin, nailed the skin to the post of a window with a southern exposure and confidently promised the great philosopher that as the fat dried up from the skin his warts should disappear. Bacon was aroused into a state of intense expectancy, his mind being constantly centered on the warty growths, and in a short time he was rewarded by their disappearance. And thus, while history abounded with well-authenticated cases illustrating the restorative power of certain mental states which might be cited here did time but serve, the poet's muse catches the idea of pschyco-somatic change, and all will recall the Prince in Longfellow's beautiful "Golden Legend"—

"Healed, in his despair, by a touch of St. Matthew's sacred bones."

Again, who, in his own observation, has not seen the emotion of love inscribe on its victim such changes as Bulwer describes in his "Lady of Lyons"—

"The man who sets his heart upon a woman
Is a chameleon, and doth feed on air:
From air he takes his colors, holds his life—
Changes with every wind—grows lean or fat—
Rosy with hope, or green with jealousy,
Or pallid with despair."

Or who has not seen some love-lorn youth like the one in Byron's "Dream," who

"Upon a tone,
A touch of hers, his blood would ebb and flow,
And his cheek change tempestuously."

Few physicians, however, will be willing to admit the sentiment of the young poet Churchill—

"The surest way to health, say what they will,
Is never to suppose we shall be ill;
Most of those ills, we poor mortals know,
From *doctors* and *imagination* flow."

Alas! alas! the poet himself died of a fever at the early age of thirty-four, unprotected by his faith that he should ne'er be ill; but whether or not he was assisted in his demise by a doctor, this deponent wisheth not to say.

Turning aside, then, from this brief illustrative record, culled from general literature, let us consider the question as physicians, and we find that the various secretory organs of the body, and, indeed, all the involuntary muscular movements are powerfully influenced by mental impressions of an emotional character.

What is the tear of grief but emotional stimulation of the lachrymal gland! Who has not felt his mouth become dry and parched when under the inhibition of sudden fear the salivary glands cease to pour out their accustomed secretions? Maternal tenderness finds one of its expressions in increased secretion of the mammary gland, while almost every mother who has known a great grief knows full well its effect in diminished secretion of milk, and every physician of experience has perhaps been called upon to relieve the distress of an innocent babe sickened, perhaps, even unto death, by drinking a mother's milk poisoned by violent anger or other extreme excitement. Every dyspeptic knows that after violent anger or sudden fear his woes are all increased, but not all are physiologists enough to understand the reason is deficient secretion of the gastric and pancreatic juices as a result of their emotion.

Dr. Beaumont, whose well-known studies of the digestive act through a fistulous opening in the stomach of Alexis St. Martin forms the basis of all we know of this process, tells us "that anger or other severe mental emotion would sometimes cause its inner or mucous coat to become morbidly red, dry and irritable, occasioning at the same time a fit of indigestion," and almost all of us know something of the unhappy association of melancholy and biliousness. Carpenter writes that jealousy will vitiate the quality, while it increases the quantity, of bile secreted. In this connection Dr. Budd, in "Diseases of the Liver," speaks of jaundice occurring as a result of mental shock or long-continued anxiety or grief, while Murchison declared that "there is good evidence that nervous agencies may not only cause functional derangement, but cure structural disease of the liver. Acute atrophy, in which the secreting cells are rapidly disintegrated, * * * appears in many instances to have a purely nervous origin."

But you ask how, then, do the emotions affect secretion? In two ways: by stimulating or inhibiting the flow of blood to the part, and by increasing or diminishing the innervation. That the emotions may produce both natural and abnormal movement in the voluntary and involuntary muscles there is no question, and the effect of the mental state on the facial muscles gives to the physiognomist all of his power.

Who does not know the face of joy, the eye of pride, the look of grief, the expression of despondency or the mild lineaments of humility, or who has not looked with a shudder on the vile wretch whose features, like those of Bertram, in "Robeky," showed that

"Evil passions cherished long
Had ploughed them with impressions strong."

Darwin has made a most beautiful study of the muscular groups called into action by the varied emotions, and Tuke has well observed, "The predominance of one emotion * * * may determine the settled character of the features."

Again, who has not felt his heart go bounding with increased activity under the influence of some sudden joy or sink within him when seized upon with fear? Watch the maiden's blushes as kindling in her cheeks

"Ten thousand little loves and graces spring
To revel in the roses,"

and know that, as they trembling come and go, vaso-motor paresis pays tribute to affronted modesty.

As might be expected, also, the emotions may produce disease in the muscular system. Tuke has collected many cases of epilepsy produced by anxiety, fear and grief; of paralysis agitans and chorea as a result of excessive anxiety, grief and even joy, while a sudden shock, as of fear, may so disturb the motor centers as to develop a true paralysis. Again, a sudden shock of fear or an excessive grief has been known to so interfere with nutrition as to cause in a single night a blanching of the hair and a succession of horrors experienced in the wrecking of a train of cars has cured in a few moments time an acute articular rheumatism.

But lest I weary you with these evidences of physical change produced by emotional causes, let us consider the question, Can conditions purely intellectual effect nutrition and other bodily functions !

If one of you should prick his finger with a sharp point a message would at once be telegraphed along the sensory nerve and the proper center in the brain would form the idea of pain. None the less true is the converse of this proposition—the idea of pain arising in the sensorium, the sensation of pain may be felt in peripheral parts. In other words, "ideation immediately acts on sensation as sensation acts on ideation."

The expectation of pain greatly increases the degree in which we experience that sensation, and on the other hand, the belief that we shall experience none, or at least very trivial, pain under given circumstances, will serve very materially to lessen sensibility.

Perhaps all of you have seen the travelling mountebank announce his ability to extract teeth painlessly, and then, rubbing some perhaps inert fluid on the gum, quickly extract a refractory molar with but slight protest from the patient. In such instances the person being assured he shall have no pain, and trusting fully in the operator, will truthfully declare the operation hurt but little.

In this connection may be mentioned those cases in which persons, chiefly of hysterical temperament, believing they were inhaling ether, have been known to become so anæsthetized as to bear painful operations without experiencing any sensation of pain whatever.

Expectant attention fixed on an organ associated with the belief that certain results will accrue, is often sufficient to produce such results. One expecting a given article to nauseate when taken into the stomach, will almost surely experience that sensation if he does not actually vomit.

No organ can functionate properly when subjected to constant surveillance, and woe be to the man who forms the habit of daily counting his pulse, and who, on rising in the morning, must always carefully scrutinize his tongue. That man, though he be not sick, will soon become so, and if he but add to his armamentarium a clinical thermometer, and note the diurnal variations of temperature, I promise you, my good doctors, another patient, at least another devotee at the crowded shrine of hypochondriasis.

The association of ideas will often prove sufficient to produce like sensations. A case is on record in which a boy, being extremely seasick, a blind fiddler sought to relieve his woes by playing on his violin, and for years thereafter the music of a violin always caused the lad to feel intense nausea, and, illustrating differently, when your speaker was a child a familiar experience it was to be awakened at night by the anxious parents to take a dose of calomel and rhubarb mixed in quince or apple jelly, with the almost inevitable result of provoking emesis, and to-day all jelly tastes to me like rhubarb, and is as efficient an emetic as would be ipecac.

The heart increases its pulsations under expectant attention, and no doubt many of you had valvular troubles when, during the course of your medical studies, the lecturer considered diseases of that organ.

The effect of fixed attention upon the circulation of a given part is nowhere better illustrated than in the case of the religious enthusiast Louise Lateau. From infancy she was constantly given up to religious devotion, and her thoughts seemed ever centered on the griefs of Golgotha. "One night, April 1st, 1868, she fell into a state of ecstasy and constantly talked in a religious strain. She saw the virgin and several of the saints. This condition lasted till the 21st, and was followed by the appearance of the stigmata. Blood oozed from the left side on Friday, the 24th; it returned on the Friday following, when blood also transuded from the feet; and on the following week from the palms of the hands likewise. Lastly, on the following Friday, these hemorrhages returned until September 25th, when, for the first time, blood flowed similarly from the forehead." These phenomena were frequently repeated subsequently during several years, and as they were made the subject of a painstaking investigation by a commission of the Royal Academy of Belgium there is no doubt of their authenticity. Sympathy and imitation frequently produce physical effects.

Hysterical women are apt to have convulsions whenever they see anyone else convulsed, and so chorea is often epidemic in schools and other places where children are assembled together, and no doubt many of you will recall Weir Mitchel's cases of respiratory spasm resembling croup, the evident result of the imitation of children really suffering from croup. Paralysis in nervous individuals is by no means infrequent as a result of the mental state, and Paget, Skey and others record many cases of hysterical joint, in which the imitation was so perfect as to be almost indistinguishable from true disease, due, no doubt, to the baneful effect of an idea; for, in the language of Sir Benjamin Brodie: "The symptoms may frequently be traced to the circumstance of the patient's attention having been anxiously directed to a particular joint."

Think, too, of the power of the will to control and direct muscular movement. Cases are on record in which, by simple effort of volition, persons have been able to control the dilatation and contraction of the pupil, while in occasional instances a man has been known to even stop for a time the action of the respiratory and cardiac muscles.

Your speaker once saw a short negro man who would make his heart stop beating for a dime. Seating himself in a chair, his whole body was gradually thrown into a state of tetanic rigidity, and as soon as this rigid state was attained pulsation could no longer be felt in any superficial artery. Careful auscultation revealed occasionally faint respiratory murmurs, but the heart's sounds were absent or so enfeebled as to be unheard, even when listening most intently Then, too, numerous cases are on record in which confirmed paralytics have been enabled to walk under the stimulus of sudden fear, while all of you will recall the dumb son of Cyrus the Great, who, seeing his father in imminent danger of his life, suddenly attained the power of speech and warned him of his danger. If, then, the mental state can effect physical change, if it is true that the varied emotions, the power of expectant attention, a controlling idea, a fixed belief, an intense sympathy, or a determined effort of the will, may effect such changes in the circulation and innervation as to modify function or change nutrition or stimulate muscular movement into action, who can measure, in the present state of our knowledge, how potent a factor the mind is in the causation and cure of disease. In this day, when the infinitesimal microbe and the puny bacillus have come to be looked upon as giants to be armed against, there is great danger that medical men, infatuated by those studies through which experimental pathology has made disease appear to be almost a tangible entity, will become forgetful that other factors are at work which cannot be subjected to the scrutiny of the microscope or tested by thé reagents of the chemist. In the light of these studies, then, it becomes our duty, as physicians, to carefully consider the mental attitude of our patients. Picture to yourselves a man in constant fear of heart-disease, with his thoughts always centered on that organ, and unless something relieves his apprehension the inevitable result will be an increased flow of blood to the part, and an increased nutrition, an increased innervation and an increased activity of movement with the final result—hypertrophy. Do you not think one in constant fear of phthisis pulmonalis by centering the thoughts upon the lungs may keep up a congestion there which will prove favorable to the deposition of tubercle? How many dyspeptic patients can you cure who never eat without the fear of bad result, or who, after meals, instead of resting in calm content, occupy themselves with lively anticipations of evil, and note the slightest borborygmus as the herald of distress? Again, we should not only study the mental state of our patient in its causative relations, but it is perfectly legitimate, nay, more, it is our duty to seek—as far as may be consistent with the dignity and honor of our profession—to make such impressions on his mind as will aid in accomplishing his cure. One of our first efforts in this direction should be to gain and maintain the confidence of our patient. Here many of the little details of personal appearance come in as factors for good or ill. The physician who is slovenly in his habits of dress, who goes unshaven and with unkempt hair, or whose necktie stands awry, is cetrainly not apt to impress a patient as a very careful man, while the doctor who approaches his patient with soiled hands or with unpleasant odor, as of iodoform, or, alas! sometimes tobacco and whiskey clinging to his person to regale the senses, will sometimes make himself so distasteful to the delicate patient as to create a repugnance which will perhaps render his best skill ineffective. On the other hand, how potent for good is the mere presence of a physician whose neat appearance and agreeable conversation make his coming like a ray sunshine in the sick-room, and whose evident confidence in the potency of his remedies to effeot good results cannot fail to create a reflex in the confidence of the patient. In parenthesis permit me to say that, in my own opinion, the therapeutic nihilist is the greatest curse to modern medicine. Himself without faith, he fails not only to inspire the confidence of his patient, but he grows careless in the administration of remedies, and relying, as he claims, on the *vis conservatrix naturæ* and the self-limitation of disease, he, failing to attain those ends which must accrue from judicious medication, brings our noble art into disrepute, and, pocketing the fees of patients he has but little right to believe he has benefited, he ranks, in my mind, almost with the "thief who cometh in the night." Again, much depends, not only in our knowledge gained as to the pathological condition, but also as to the impression we make upon the patient by the methods employed in making our examinations. Carefully interrogate each organ, auscultate, percuss, palpate, scrutinize the tongue, note the pulse and temperature, and investigate the secretions, and if you gain nothing beyond what you have almost intuitively determined, you have none the less impressed your patient with the idea that you have given his condition a proper study, and are therefore competent to treat him.

Do not hurry the patient too much in giving the details of his condition, and though it be unimportant, and oftimes a weariness in the flesh, "grin and bear it," for nothing so takes with the victim of imaginary ills as the doctor who will be a sympathetic listener, and this weakness is not unknown to real sufferers. Be kind, but firm, gentle in manipulation, but never fear to hurt when necessary to your patient's good. Be explicit in laying down definite rules to be observed in his management, and, if you are sure you are in the right, a little despotic in seeing that your directions are carried out to the letter, and thus you will have done much in securing that confidence without which your best efforts will fail. Again, offer your patient such mental distraction from his ailment as his condition will admit of ; see that he is diverted by pleasant conversation and society, and in chronic troubles send him away from home. The change of scene will divert him from his ills, and if he be able to bear the expense of a sojourn at one of the mineral springs, the liberal supply of water will aid in his restoration to health by flushing out all the drains and sewers of his system, even though, forsooth, the contained chemical be too infinitesimal to accomplish anything.

In as far as you can, consistently with truth, lead the patient to believe a given result will accrue, and you will have gone a long way in reaching the end of your medication. Excite his will-power, make him believe that much depends upon his own determination, and always remember to administer the cordial of hope. Hope! aye, who can measure its power to reanimate and vivify, to whip up the languid heart and send the blood coursing through artery and vein, to drive the nerve-fluid with electric speed, to awaken into renewed activity every organ and tissue, to smooth, though sometimes with delusive touch, the pillow of disease and pain. Hope! who with magic wand doth dispel our doubts and fears, and who doth line with silver sheen the dark cloud of despair! Hope!

> "Thou beggar's wealth!
> Thou lover's victory and thou sick man's health!"

A CASE OF SPONTANEOUS THROMBOSIS OF THE PULMONARY ARTERY FOLLOWING LABOR, WITH RECOVERY.

By John M. Faison, M.D., Faison, N. C.

(Read before the Medical Society of the State of North Carolina, at Elizabeth City, April 16, 1889.)

Mrs. J., aged forty years, mother of seven children, with good family history, was confined on May 12, 1889. Labor was easy, lasting about two hours, child about average size. Placenta was delivered at once with very slight hemorrhage. Extract ergot, fluid, ʒ j, with quiniæ, sulph. grs. 5 was given at once; extract ergot, fluid, gtt. 15 and quiniæ, sulph., grs. 5 were ordered to be taken night and morning, stopping the ergot after two days and continuing the quinine alone for one week.

I saw her again on the 2d, 4th and 16th days after confinement, and found her doing as well as possible. Bowels and kidneys acting regularly, lochial discharges normal, no pain and but little soreness about uterus, temperature normal to 99° and 99½°, pulse 80 to 85, and heart-sounds perfectly normal. I told her to report any changes in her condition.

On May 20th, the eighth day after confinement, I was hurriedly summoned, about 6 a. m., to see her, and found her sitting up in bed suffering severely with dyspnœa; face pale, with decided purple hue, especially about nose and mouth; extremities cold, pulse very weak and irregular, sometimes intermitting 135 to 150 per minute; respiration 40 to 50 per minute; temperature normal. On auscultation lungs were normal, air entering freely in front and behind. Percussion gave slightly increased resonance. Heart was beating tumultuously and irregularly, with a *decided grating* or *rasping sound* over the pulmonary artery, and confined to this place principally.

From herself and husband I gathered the following history: That she was doing splendidly since I saw her last and fell asleep about 9 p. m., and was awakened suddenly about 2 a. m. with a full, tight feeling in her chest, and was compelled to sit up in bed at once to get her breath, and thought she would die immediately from suffocation. So terrible was her dyspnœa and so evident her death therefrom, that he dared not leave her to go to a neighbor's house, about four hundred yards, to send him for me, lest she would be dead upon his return. Having some brandy in the house, he gave it to her very freely, and applied camphor and turpentine to her chest, which he thought had lessened somewhat the difficulty of breathing and lulled the pain over her heart. The dyspnœa, he said, was spasmodic, being more severe about every fifteen minutes, and while with her I noticed the same spasmodic course.

With these facts and my own observations, the presence of a blood clot, either in the right side of the heart or the pulmonary artery, obstructing the flow of blood to the lungs, was evident, and in that the peculiar grating or rasping sound was confined principally over the site of the pulmonary artery, together with the sudden attack of dyspnœa the short length of time since confinement, and the absence of a thrombus elsewhere which would degenerate into emboli, a diagnosis of spontaneous thrombosis of the pulmonary artery was made, notwithstanding its extreme rarity and the teachings of a good many authorities to the contrary.

Commending her husband for the good sense displayed in his treatment, without which I felt certain she would have been dead, I continued to stimulate her, giving brandy, sulphuric ether and ammonia by the mouth and hypodermically, and repeating them as freely and often as I dared, the ammonia being given not only as a heart stimulant, but also, if possible, to prevent a further clotting of the blood. Had she been of plethoric habit I would have bled her to relieve the venous circulation, but having suffered so much from nausea and vomiting during the latter three months of pregnancy, her general condition was such that venesection was beyond question. Morphia, sulph. $\frac{1}{8}$ gr., and atropine, 1-120 gr.,was also given, both as a heart and respiratory stimulant and to quiet the anxiety and horror of approaching suffocation.

This treatment, with counter-irritation to chest, with a liberal diet of sweet milk, milk punch and egg-nog, was continued *pro re nata.* On May 28, eight days afterwards, her improvement was scarcely perceptible except that the spasmodic course of the dyspnœa was less distinct, yet it was still threatening life. Pulse 120 to 130, temperature normal, bowels and kidneys acting moderately well and patient becoming more emaciated. The same treatment was continued, adding also potass. iodide, 10 grs., three times per day, which was increased to 15 grs., and then 20 grs., with the hope of dissolving the clot as rapidly as possible.

On June 6th, the end of the second week of her illness, her improvement was more perceptible; pulse slower and stronger, respiration less difficult and the rasping sound over pulmonary artery growing less distinct, all of which pointed to the slow absorption of the blood-clot. After a sudden change of temperature, with wind and rain-storm, bronchitis was contracted, with fever and cough, which added no little to the already existing danger, but after a few days it subsided under appropriate treatment, and she continued a slow, tedious and steady improvement.

On July 1st the potass. iodide was stopped on account of its disagreeable effects, and, as her progress had been so slow and tedious during this time and now continued as when giving it, I am unable to say whether or not the patient derived any benefit from its administration.

Nothing of special interest occurred during the latter part of her sickness.

On July 4th, the seventh week of her illness, she was able to lie down without increasing the dyspnœa, and ten days later could sleep lying down all night.

On August 10th she was discharged cured, and at this writing is perfectly well.

As regards the peculiar rasping sound over the pulmonary artery, it grew less and less distinct as her respiration became natural, and when discharged, and since that time, repeated examinations have shown heart-sounds normal. No phlegmasia dolens or other evidence of thrombosis elsewhere has as yet occurred.

Playfair thus enumerates the causes of thrombosis :

1. An increased amount of fibrine in the blood, amounting to one-third more during the latter months of utero gestation.

2. An impoverished condition of the blood as found in the puerperal state in the process of involution of the uterus, charging the blood with quantities of effete material.

3. A mechanical obstruction, such as a travelled embolus or detached vegetations from diseased heart-valves, around which as a nucleus a thrombus may form.

4. Post-partum hemorrhage producing a weak or stagnant circulation. This is the most common cause, and in the great majority of cases always present.

To the first two causes, to wit, an increased amount of fibrine and the impoverished condition of blood from quantities of effete material, together with the anæmic condition of patient, due to the excessive nausea and vomiting during the latter months of pregnancy, must we look for the causes of thrombosis in this case.

We must exclude embolism as the nucleus of the thrombosis, since there has been no evidence of a thrombus elsewhere which could degenerate into emboli, and besides, the obstruction occurring on the eighth day after labor, does not give time for this degeneration, as no case of sudden death due to pulmonary obstruction from a travelled embolus has been reported or verified by a post-mortem examination. A detached vegetation from diseased heart-valves must also be excluded, as there was no evidence of such valvular disease upon repeated examinations previous to the obstruction. Of course we must exclude, also, post-mortem hemorrhage, which is such a common antecedent that its absence is worthy of note, especially since some high authorities regard a clot in right side of the heart and pulmonary artery without an embolus as a nucleus, as a "mechanical and physiological impossibility." Virchow thinks a stagnant state of the blood the primary factor in thrombosis, and that the impulse imparted to the blood by the right ventricle is of itself sufficient to prevent coagulation. A post-partum hemorrhage would almost produce this stagnation, his primary factor; yet, without hemorrhage, an anæmic condition of patient, producing a weakened circulation, the anatomical arrangement of the pulmonary arteries (the artery breaking up at once into a number of smaller branches, which radiate at different angles, thus giving more surface to the blood with angular projections into the currents), with the conditions present in the puerperal state, as mentioned by Playfair (see above), will induce spontaneous coagulation in the pulmonary artery.

The results of post-mortem examinations also show firm leathery decolorized and laminated coagula which could not have been recently formed, which coagula are not deposits around emboli, in that death occurred previous to the nineteenth day, which would not give time for the process of degeneration.

Playfair records 25 post-mortem examinations of sudden deaths after delivery due to pulmonary thrombosis and embolism. In 7 of these cases there was distinct evidence of embolism and in them death occurred at a remote period after delivery—in none before the nineteenth day. In 15 of these 25 cases there was no evidence of embolism, and death occurred no later than the fourteenth day, and generally in the second and third days.

My experience and obsrevation is limited to a single case of sudden death after delivery, which occurred in my brother's practice. It may be of interest to mention it. He was called for hurriedly, and being absent, I attended the patient, whom I found dead upon arrival at her home. She had been delivered twenty-three days previous to her death. Phlegmasia dolens developed in right thigh and leg two weeks after delivery. Her husband stated that she was getting along very comfortably and lying in bed talking to him, when suddenly she began to breathe with some effort, and continued to grow worse, complaining with fullness and tightness in chest and some pain over region of the heart. He at once sent for my brother. She continued struggling for breath, getting worse every minute, and died within an hour after first attack.

This was evidently a case of blood-clot in right side of heart or pulmonary artery, due to a travelled embolus from the degenerated thrombus in right leg. No post-mortem was allowed to verify diagnosis.

SELECTED PAPERS.

A MURDERER'S DYING CONFESSION DISPROVED BY SURGICAL AND ANATOMICAL FACTS.

By Benjamin E. Cotting, M.D., etc., of Massachusetts.

On the afternoon of July 1st, 1874, a woman, 22 years of age, of no very uncertain character, was brought to the Boston City Hospital. She was completely paralyzed on the right side; seemed nearly or wholly unconscious; and had fearful and bloody injuries about the head. The story that came with her was that she had been found in this condition, a few hours before, in her "own hired" room, and in her own bed. When found she was motionless, and was at first supposed to be without life. Her head, neck and shoulders were red with blood: and under them the pillows, sheets and bedding were saturated with it. This blood had flowed freely from a number of open wounds on the left side of the head; but there was no spattering on the walls or objects near by. She was lying on her right side, with her face towards the middle of the room, in the exact position apparently that she had taken on first going to sleep. Her night-gown and the bed-clothing about her body had not been perceptibly disturbed. Her day garments and smaller articles were orderly distributed about the room, as left on retiring. There was no sign discoverable that indicated the presence of any other person during the night. The room-door was locked, and the key remained in the lock on the inside. The windows were closed, but one was found unbolted. Through this a person could have entered, or escaped, as the room was on the ground-floor; yet a most diligent search failed to reveal even the slightest evidence that anything of the kind had been done. At what hour she retired no one could tell; and no response had been gained to repeated applications to her door in the course of the forenoon. Although an adjoining room on the same floor had been occupied that night, its inmates declared that they had not heard a groan or a sound from her apartment.

So far as known she had not an enemy; yet doubtless had angered some one, inasmuch as an unrecognized man had asked for her the evening before, and, not finding her at home, had vowed terrible vengeance as he left the house.

Who did the deed, and what the instrument, were mysteries that seemed at the time to be past finding out.

On examination at the hospital several extensive and complicated fractures of the skull were discovered, with considerable depressions, thought to be chiefly in the outer tablet, and not to require trepaning. On and through the scalp were a number of bleeding wounds—the hospital record says "nine on the left side of the head, besides several others near the left ear, which cannot be separated." The ear itself was "grealy lacerated," caught as it must have been several times on the edge of the instrument when it passed into the scalp. Its helix also, with the cartilage, was cut through at its anterior upper part. These wounds were all of a curved or crescent shape, clean cut, each "little more than an inch long." From two of them "brain substance protruded in a mangled state;" and into one of them, the only one mangled, the finger could be passed, and carried through the broken skull to a considerable depth, without force, in the injured brain—the record states "fully two inches," and Dr. Cowles markedly (on his finger) confirms this statement. The lines of these wounds turned generally in one direction, inclining towards each other at various small angles; in several instances running together or crossing; some mingling in a confused or inseparable manner—particularly at the spot where the finger could be passed into the brain. The little points or tongues of skin, wherever these wounds crossed each other, were perfect to their very tips, and showed no sign whatever of rent or bruise.

The hair was very long and very thick: "We noticed it," Dr. Cowles writes, "to have been cut off quite sharply in correspondence with the cuts in the skin. . . . I am quite clear as to the cutting of the hair."

From the worst wound (it being, indeed, where were several of those "which cannot be separated") a few fragments of bone of considerable size were taken; and from just within the external opening of the wound some chopped hair, mixed with the mangled tissues there, required removal. The injuries to the bones, including depressions, were estimated to be within an irregular space of about three inches long and nearly or quite two inches wide, somewhat semicircular at its upper or widest part. The external wounds or cuts, also, with one or two exceptions, particularly one in the occipital region, were within the limits of such a space. There were no wounds on top of the head, or any other part of the body.

Now, it is evident that a first blow must have instantly stunned and paralyzed this woman—else there would have been movement of her body or derangement of clothing, of which there was neither. This blow may have been given by a bludgeon, a mallet or a hammer of suitable size, form and weight. Such blow repeated would naturally extend the fractures, comminute them, and cause any amount of depression in the bony skull. But open wounds in the fleshy scalp by such instruments would as naturally have crushed or bruised edges, and the blows that made such wounds would have caused a spattering of blood all about—not the free bleeding which in this instance blanched the victim and saturated everything near by.

To account for the fractures and depressions then did not seem so very difficult—any heavy club might answer. But what produced the curved and curiously situated incisions was a more difficult problem; and experts, professional and lay, called upon to solve it, as well as detectives and friends, all failed to suggest an adequate solution.

Several days after her admission, Dr. Cowles, superintendent of the hospital, called me in, as a consultant, to look at these wounds, to see what I could make of them. The parts had been shaven and fomented. The surface of the skin was quite smooth and uniformly convex—still notably swollen—the swelling covering rather more than the space originally thought to include the injuries to the skull bone. Some of the cuts near the ear gaped a little, but the others were generally in a satisfactory condition, and all had the appearance heretofore described. After hearing the whole story, and a careful consideration of the matter in all its bearings, I suggested that such wounds required a sharp instrument (as all admitted), and that the deed had been done by a mechanics' inch-wide *gouge*—a tool resembling a chisel, but having, instead of a flat, a "hollow" cutting blade, a longitudinal third or trisection of a cylindrical tube. This is bevelled off, like a chisel, to a cutting edge, which in this way becomes curved or crescent-shaped. If the corners also are ground off, as on turner's gouges, the cutting end partakes of a rounded, spear-like form, and presents a drawing edge to whatever may be brought in contact with it. Hence it might cut hair almost as easily as a razor. Its handle is usually nearly or quite cylindrical, and of firm, hard wood. Thus the tool might be just the club for heavy blows, if held by its metallic end, while its cutting edge would most certainly make wounds like those in question.

Such an instrument had not been thought of; but the suggestion evidently made an impression; for, on the next day, Dr. Cowles came to my house, bringing a turner's gouge, of inch wide blade, a new one procured from a shop as a specimen by a police officer who wished to know whether that was the kind of instrument I had spoken of—as it certainly was. The tool brought to me was nearly or quite two feet long—its inch-wide steel or cutting portion and its handle being of about equal lengths. Its handle was a heavy billet of hard wood, smooth, cylindrical, slightly ovoid at the end. Such a tool usually weighs 35 ounces, at least a pound more than a policeman's billy. Held by the metallic portion, a blow, given by it as with a club, would be quite capable of crushing in a skull and instantaneously stunning a victim to unconsciousness. Indeed, this would be almost inevitable; and without necessarily breaking the scalp.

Repeated blows would have the effect heretofore indicated. This done, the operator, without revoving his hand, but by simply turning the tool nearly or quite vertical, with edge downwards, could stab the fleshy parts as rapidly and as many times as he chose, before the victim could have time to revive or even move. He could do this after premeditated intention, or on the impulse of the moment, to thoroughly complete the deed. Such stabs would make clean-cut and curved or crescent-shaped wounds naturally turned in the direction of those found; and when the instrument was driven with force it would not be apt to slide or make grooves in the flesh, as a blunt tool would; and might pass directly through the already comminuted bone into the brain itself.

As the skull injuries showed that they could have been made by the handle of a gouge such as that brought to me, so the flesh wounds indicated the blade of a similar instrument. Indeed, Dr. Cowles had already tried the cutting end of the tool he had with him, and found that it would fit the wounds exactly.

Thus the problem seemed to be satisfactorily solved.

Dr. Cowles then went on to say, further, that among those interested in the woman was a young mechanic, who was, in fact, so tremulously anxious about her possible recovery as to excite suspicion and induce the surveillance of the police. Since my visit to the hospital this man had been taken into custody. Proving to be a turner by trade, his workshop and tool-chest had been searched. The chest contained the usual tools, having a series of gouges complete, with the exception of the inch-bladed one. That was missing! The arrested man could not explain its absence, or give any account of what had become of it. He could not even tell when he had used or seen it last; and it was too large a tool to be lost without notice. These were rather damaging circumstances, but he stoutly asserted his entire innocence of the whole affair; and no other evidence was ever found against him. He had, it appeared, known the woman for some length of time, and had always seemed anxious for her welfare.

The woman did not in any way connect him in the matter, nor even recognize him; in fact, she was never able to recall the assault or anything or person of the evening previous—an ante-accident oblivion not uncommon in those who have been severely stunned. The detained man made out an *alibi*; and was subsequently set free. He was generally accounted guiltless of the assault. I am not aware that the missing tool has ever been found, or its loss accounted for.

(As merest conjecture, in solution of this part of the mystery—possibly the man who with "horrid oaths" had threatened vengeance the evening before the assault, while in search of a club, may have robbed the chest of this tool—a very natural thing for a mechanic to do, and not unnatural in anyone on felonious intent. This may have suggested itself more readily to him if he knew the owner was an intimate friend of the threatened woman, as in such case the missing tool would tend to divert attention from himself and to turn it upon another man. Besides, the carrying a tool would not attract notice; whereas the possession of a club might arouse suspicion. The deed done, he could easily throw the tool into the waters of the dock near by, nevermore to be seen of men. There was, moreover, as rumor had it, an unaccounted-for disappearance from the neighborhood of a man quite competent to all this.)

The injured woman, after a protracted convalescence (during which the paralysis gradually disappeared) and a residence for a time at an asylum, at length regained her usual health and sanity. Before she was discharged, however, she declared her fixed determination to return to her old mode of life; and was soon lost sight of, except by the local police of her own immediate neighborhood.

In May, 1876, nearly two years afterwards, a condemned murderer, a few days before his execution, made a "confession" of many of his misdeeds, and claimed this assault as one of the number. He stated that by chance that evening he had met upon the street this woman, before unknown to him; that he went with her to a restaurant; thence to her house, and passed the night there; that, in the early morning, while she was yet sleeping, he pounded her on the head with a hammer, and then left her for dead. He further stated that the hammer might be found buried in the earth in a cellar he had access to at the time. He had other things there, for murderous purposes, awaiting opportunity. The finding of a hammer gave credence to the story, which was pretty generally acquiesced in. But having had much to do with the case for which this man was to suffer (his last victim having been my patient), I distrusted the narration. Yet what motive, it may be asked, as it has been, for a man so situated to make misstatements? Although now concerned with facts, not motives, here is one among others, quite conceivable. At about that time, in another case, a death-sentence was delayed and a commutation expected (afterwards actually granted) on the open avowal of murders and other revolting crimes—on the ground that "irresistible impulse," or something of the kind, had rendered the villain *not responsible.* More than one murder was chargeable to this last convict. A long list might save his *life,* if his philanthropic sympathizers (after having denounced his sentence as unmerited and too hasty) could be induced to urge upon the government the plea that "he couldn't help it." It would have been the venture of desperation; but it was too late. He soon became "much mixed," and finally broke down.

As to my patient, I had, as her murderer at last acknowledged, given in open court more correct details of the deed than he was able to recount when, in sight of the gallows, he attempted a narrative of his now admitted crime—admitted to his amazed legal defender, whom he had deceived, up to that moment, into full belief of his innocence.

In regard to the injured woman, his statements were so defective, or so at variance with my observations as a medical man, that, for myself, I soon became convinced that he never had anything whatever to do with her, unknown to him, as he admitted, up to the day of the assault.

But the hammer! It was (I have seen it) a smith's hand or riveting hammer, with a circular face of seven-eighths of an inch in diameter, not very sharply defined at the edge, but enlarging almost at once into a square form of an inch and three-eighths diagonal line; weighing only rather more than a pound, handle and all; not very likely on first blow to completely stun in an instant, and thoroughly paralyze one struck by it, or to cause, with its small face large fractures or depressions in the skull, or any fracture at all without leaving small, local, pulpy bruises in the scalp where struck, and not a uniformly smooth swelling as in this case. The *pein*, or wedge-shaped end of such a hammer, if the blow were of sufficient force, might cause a fracture, but then the wound left in the scalp would be a *straight*, mangled furrow or indentation. In like manner its round face would have a soft or pulpy and somewhat cup-shaped depression. If an open wound of the full size of its face could be so made, it would be circular, of course; but if less complete and of an inch in length (more than the diameter of this hammer's face), it could not be of a lesser arc than a semicircle. One, or two such wounds segregate, might be *imagined*, perhaps, but half a score or so would be clearly impossible. Now, the wounds we had to deal with were crescent-shaped, not semicircular; were sharply defined incisions, all of equal lengths, variously inclined and running into or crossing each other, and in themselves hardly conceivable as the work of a hammer, or as made by anything else than a sharp, cutting instrument. Besides, no hammer's blunt face could be forced into and through the skin, except at an angle, and then the opening would be bruised down on one side and crushed off on the other, according as the instrument slipped, as it inevitably would, more or less, on a rounded skull. Furthermore, we repeat, wounds made by a blunt tool might spatter their blood, but not set running so many freely flowing vessels. Bruised wounds do not bleed like incised ones. Again, and fatal, it would seem, in themselves, to the "confession"—

(*a*) No hammer, however keen its circular face-edge, or other blunt tool, could make such "sharp" *cuts* in and through the mass of hair this woman had—no, not one such; much less a score; (*b*) nor is it possible, supposing a human arm had the power, that a hammer-head, being only one inch and seven-eighths in length from its face to the hole for its handle, could be forced through such hair, scalp and skull, into the brain to a depth in all of "fully two inches," without making a much larger opening, carrying in to the very depths hair, flesh and fragments of bone, and leaving a very different state of things on the outside from that here found.

All that was done, however, could have been easily effected with a turners' gouge.

Not long ago, March 20th, 1889, fourteen years after the injured woman left the hospital, a notice appeared in the newspapers that her body had been received at the morgue. I immediately called on Dr. Harris, medical examiner, who at once, with most courteous readiness offered all facilities possible at so late a period. He had not known anything of her previous history; but had been told that after a prolonged drunken debauch, of which she had had many, nature giving way, she fell into a state of exhaustion, and in a few days thereafter had a painless and peaceful death. The cause of death had been officially reported "alcoholism."

Even in the grimness of her present surroundings, and after such a life, she was not ill-looking. Her face and features were not disfigured. She had "never had disease," except from alcohol, and was not wasted. Her head-of-hair was quite extraordinary in abundance, great length, softness and glossy blackness. It had been well cared for; even the officials of penal institutions had respected it; and, contrary to their custom, had left her in full possession.

There had been an autopsy, and everything had been replaced in proper order; not then to be further disturbed. I sought out, however, the external scars in the scalp—an important matter. They were not at first easy to find on account of the thickness of the hair. They were there, nevertheless; and, except near the ear, where was a wrinkled group, they were delicate, linear, crescent-shaped scars, unmistakably the result of clean cuts, or incisions by first intention—not of bruises. There could be no doubt in the matter.

Some weeks later I had a chance to see the "specimen"—deprived of most of its integuments. Looking at it in front, a general depression of the middle of the left side, as compared with the right, was quite evident; and this occupied about the space estimated in the first examinations at the hospital. Such a uniform and shallow depression suggested the result of blows by a weapon of considerable size, without angular projections—a smooth club, most probably.

On side view, about two inches above the anterior third of the zygomatic arch, there appeared evidences of former fractures. From a point on the frontal bone near the parietal sevaral lines of old callus radiated at acute angles as from a centre. Between two of the uppermost of these was a double triangular prominence about an inch long and quite an inch and a half or mora wide as it diminished off towards the base.

Very likely the fractures at this place came from the first blow the woman received from her assailant.

On, or just above, the level of the zygomatic arch, there was an oblong opening in the skull—beginning at the largest portion, just in front of the anterior part of the temporal ridge, and extending forwards about two inches. The upper and lower bony edges of this opening, irregnlar in outline, were not rough, having been smoothed off naturally in progress of time since the injury. The lower border seemed to be of two nearly equal lines, each very slightly curved and joined together at an angle, open upwards, of about a hundred and twenty degrees. The upper border of the opening was rather more irregular, but equally smooth. The anterior limits ended in a point, almost, while the posterior or aural portion was three-fourths of an inch, or more, perhaps, across. From this space, undoubtedly, came the fragments of bone removed at the first examinations. Here, too, near the ear, the finger could be passed into the brain, but no hammer of the size and form of that found could have ever made an entrance through such an opening. A gouge could have done this, and easily have shaped the lower border of this cavity.

On the occipital bone, about three inches behind the meatus auditorius, was a well-marked curvilinesr depression of about an inch chord, which, with a slight ridge inside, gave strongest evidence of a former wound by an insrument that had gone completely through the skull at this point. This was where (in Dr. Cowles's trials, before mentioned) the gouge would most exactly fit the fleshy wound; and the prolonged depression of the enclosed fragment of skull showed with what difficulty the tool must have been wrenched from its impackment in the bone. Now, indeed, if any one can conceive of anything better adapted to produce such a wound than a gouge, he must have greater powers of imagination than I can lay claim to. Even with such an instrument the blow must have been given with very great force. Not to insist that, in the position the victim was lying, the blow of a hammer in the hand of an assailant, if it made a curved indentation, must have made one in a different direction—no hammer-head, even if held as a punch and struck by a sledge, could be driven through all the coverings of the skull and the skull itself at that place, and simply cut out, or force in, a circular, or, as in this case, an almost semicircular, fragment. A general crush of all the neighboring parts would be inevitable. A small hammer in the single hand of one person would seem wholly out of the question.

There did not appear to be anything else in the "specimen" attributable to the assault now under consideration."

To recapitulate—it appears from the length and width of the space involved in the fractures, and the depressions being in the outer table chiefly, that the victim had been struck by a club of some kind—one of considerable size, and smooth, also, inasmuch as the scalp was not laid open by it—

That, instantly stunned and paralyzed, her motionless insensibility permitted other blows, and the infliction of any number of open wounds;

That the wounds actually made, a score or so scattered or inseparable, were curved or crescent-shaped, with clean-cut edges, the little points, at the crossing of any two, whole and clearly defined, not bruised; that these wounds were of nearly equal size, each a full inch in length; and, further, that they were cut through thick hair "quite sharply," and through the scalp also, in one or two instances going quite through, and deeply into the brain; all evidently done by some kind of sharp-edged instrument—

That these wounds bled freely, as cut wounds generally do—

That a turners' gouge fulfils all the requirements of the case; while the hammer utterly fails in regard to the open wounds, and, as we think, in every particular.

Such are the premises; and such the offered solution. An adequate explanation, however, ought to be enough to hold against the improbable or defective.

To some persons the circumstances attending the "confession" may seem to add credibility to the murderer's story, but they should not. The confession of criminals, even when without motive and only tending to increase their infamy, are not received by courts of justice unless supported by other and more trustworthy evidence. Dying persons, in their feeble and imperfect utterances, seldom fully know what they are talking about, as momentary revivals prove. In the partial delirium of weakness, as in half-sleep, a person desiring to say one thing may utter something very different from what he wishes, semi-consciously, and in spite of himself. Last words, ordinarily of little moment, should be construed with caution, for too seldom can they bear the interpretations one would gladly give to them. Death-bringing illness, while killing the body, generally, even where and when least expected, clouds or nearly obscures the intellect, and fills the mind with baseless delusions, while the crushing terrors of impending destruction seem at times to start up in a culprit's mind remembrances of crimes which he never committed. What wonder, then, that, broken down by despair, the last straw of hope floating away, with mental powers utterly demoralized, a doomed man, with or without rational motive, magnifies his many misdeeds, assuming the acts of others which he had gloated on, and incorporating them with his own.

At all events, this portion of the murderer's "confession" I did not believe at the time. I do not believe it now. Facts in the case disprove it.

N. B.—After reading my paper, a friend called my attention to an article in the London *Lancet* (April 20, 1889, p. 819) wherein the writer asks, "Are most dying declarations unreliable evidence, and how may we differentiate them?" and then says, in answer, "If a human being be aboulic, . . . his [dying] statements are unreliable as evidence, . . . and the sooner medical jurists insist on the alteration of the position and value of such testimonies the better it will be for society and for mankind."—*Boston Medical and Surgical Journal.*

* * *

MRS. JANE C. STROMONT, widow of the late Dr. D. W. Stromont, of Topeka, Kansas, has generously given $10,000 to the Kansas Medical Society for the purchase of a library for the benefit of the profession.—*Medical Age.*

THERAPEUTICS OF INFANCY AND CHILDHOOD.

By A. Jacobi, M.D., etc., New York.

PERTUSSIS.

The mortality from pertussis in New York City is as great as that from typhoid fever. Twenty-five per cent. of all the cases under a year terminate fatally; five per cent. of all those between the first and fifth year, and one per cent. of all those occurring after the fifth. Its mortality, however, is not the only danger, for not infrequently chronic laryngitis, pneumonia, emphysema, and the result of hemorrhages taking place during the attacks, impair the health of the patient for many years or a lifetime. Thus the tendency of allowing whooping-cough to run its full course on the plea that it is a self-limited disease, or that every child must have its whooping-cough, is certainly not justified.

The prevention of whooping cough, which is a specific and contagious disease, is certainly not easy, for the reason that contagion may take place very suddenly, and through the first and second stages of the disease, both of which extend over a large number of weeks. Contagion may take place, no matter whether the cause is to be looked for in the presence of micro arganisms or not, by means of the exhaled air, or mucus, or the masses brought up by vomiting. Prevention means protection against the effects of all these factors.

As the disease is spread by contagion only, isolation is an absolute necessity, difficult though it be. In public institutions it is impossible. Thus no patient ought to be admitted to, or allowed to remain in, a public school. Whooping-cough children must not even be permitted to congregate in large numbers, because the case will become more severe by their mutually affecting each other. In one point only isolation is more affecting in whooping-cough than in other contagious diseases—namely, in this, that the disease does not appear to be carried by persons not thus affected.

The air must be kept pure, uniform and moderately warm. No wind or draft, whatever, must be permitted. Utensils must be kept clean and be disinfected, and the masses brought up by vomiting disinfected, destroyed or removed. The mucous membranes must be kept in, or restored to, a healthy condition, particularly those of the mouth and respiratory organs. Thus no injudicious exposure must be allowed. The digestive organs have to be watched, the stomach must not be full at any time, the bowels kept regular, the food be digestible.

As long as the cause of the disease is not understood, and therefore no casual indication can be fulfilled, the object of treatment limits itself to this: to relieve the severity and diminish the number of the attacks, to procure quiet nights, to stop the vomiting, to shorten the course of the disease and to prevent detrimental consequences.

An important indication is that of treating a catarrhal or inflamed mucous membrane. It is quite possible that a sore mucous membrane only is capable of admitting the contagion of whooping-cough as it does that of other infectious diseases, for instance, diphtheria. Besides, by attending to the mucous membranes in time, the occurrence of serious complications, such as pneumonia, may be prevented. Catarrh of the mouth and pharynx ought to be treated with doses of chlorate of potassium of from half a grain to a grain in a teaspoonful of water every hour; and a large number of our expectorants find their ready indications in such cases. All of those which have a depressing effect must be avoided, particularly antimonials. Even ipecac must be given in small doses only. Alkaline waters have a beneficial effect. The muriate of ammonia, in doses of from half a grain to two grains every hour or two hours will liquefy the viscid secretion of the bronchial mucous membrane. In a state of evaporation, as described in a former essay, it may be inhaled. The inhalation of other agents, which have been recommended as expectorants, will at the same time act as germicides, so the vapors of benzol, of carbolic acid and cresolin; and the reputation obtained by gas-works in the treatment of whooping-cough is thus finding its ready explanation.

The effect attributed to astringents in the treatment of whooping-cough is best explained by their action on the mucous membranes. Particularly alum and tannin have been so employed. Emetics have been recommended for the purpose of relieving the surfaces of sticky mucus difficult to remove. Sulphate of copper or zinc, ipecac powdered, or turpeth mineral are the proper substances to be selected for that purpose.

Schliep has seen good effects of the use of the pneumatic chamber in whooping-cough. He kept the children with their mothers or attendants in compressed air. In a few cases a few sessions of two hours each were sufficient to relieve the patients considerably. In a number of cases from twelve to twenty sessions were required. In all of them he claims decided effects, not only in the reduction of the number and severity of the attacks, but also in the duration of the disease. The explanation of the good effect is looked for as well in the increased amount of oxygen exhaled as in the diminution of the hyperæmia of the mucous membrane. I believe the plan is a good one, particularly if it could be combined with the inhalation of turpentine.

Cases exhibiting a severe degree of pharyngitis and laryngeal hyperæmia, particularly in children who have suffered a long time from chronic inflammatory affections of the parts, will do well, as far as the local symptoms are concerned, under the use of the tincture of pimpinella saxifraga; a drachm distributed over the twenty-four hours will be the proper dose for a child of from two to three years.

Local treatment has been resorted to by many. The pharynx has been treated locally with a solution of quinia (Hagenbach), a two per cent. solution of resorcin (Moncorvo), a one or two per cent. solution of nitrate of silver, a five per cent. solution of hydrochlorate of cocaine, of four or six per cent. solution of bromide of potassium. Applications have also been made directly to the larynx of quinia mixed with bicarbonate of sodium in different proportions, of mild solutions of salicylic acid and of powdered sulphur. Inhalations have been resorted to, besides those enumerated above, of sulphurous acid, and extolled as highly as any of those which have been mentioned. If they prove anything, and they and the great number of the recommended for the same purpose speak for the difficulty encountered in the treatment of whooping-cough, and for the confidence of the practitioner in the patience and submission of his wards. Michael treats whooping-cough as a neurosis, with the same means he employs against other neuroses attributable or attributed to nasal irritation. He claims that seventy-five per cent. of his cases of whooping-cough have done well when exposed to the influence of quinia, bromide of potassium, benzol, tannin, boracic acid, salicylic acid, iodoform, cocaine, bicarbonate of sodium, or prepared chalk applied to the mucous membrane of the nares.

The internal administration of chloral hydrate, or croton chloral hydrate, has been recommended by Leroy in 1879. The daily doses range from eight to fifteen grains. In all cases the attacks became less severe within a short time, but the disease itself was not shortened. Kennedy expresses himself very enthusiastically about the effect of the remedy, which is given by itself or combined with the bromide of potassium. To procure an occasional good night, a single dose of from six to twelve grains has rendered me good service.

The inhalation of chloroform, or, according to some, of ether, can be recommended in those cases in which convulsions have either occurred during severe attacks, or in which the interruption of the circulation is such that cerebral hemorrhage or convulsions must be feared. In the case of a very young infant I have administered chloroform once every hour for every new attack during the course of a number of days in succession for that very purpose, with beneficial result.

Quinia has been used both internally and externally by a number of authors of good repute. It was first recommended by Letzerich, who claimed to have found the cause of whooping-cough to consist in the presence of a coccus which he intended to destroy by the action of quinia. That coccus has not been found to this very day, but still quinia has found favor for a number of reasons. Rossbach credits the drug with the power of relieving increased reflex irritability. Binz, however, attributes to it an antizymotic action. He gives as many decigrammes daily as the child has years, so a child of five years would take eight grains of quinia a day. He expects to find an improvement after two or three days, inasmuch as the attacks are said to become by that time shorter and less severe. Where it cannot be given internally, he administers it in suppositories or in injections. Where the sulphate or hydrochlorate are not tolerated, the neutral tannate of quinia is selected instead, with this proviso, however, that the latter salt is much weaker than the former, and has to be administered in doses from two to three times as large. It has the advantage of being tasteless. In our own country it is particularly Forchheimer, who reported ninety-seven cases as having been benefited by the administration of quinia.

Antipyrin has been recommended for whooping-cough, since 1886, by Demuth, Sonnenberger, Moncorvo, Guaita Wendt, and many others, as almost a specific. Like all the other chemical relatives of chinolin, it destroys parasites outside the organism. It has been claimed, or presumed, that it displays the same effect in it. Whether that is true remains to be seen. At all events, however, it is a powful nervine. It is claimed that it can be given with the same beneficial result in the beginning of the disease and in its most severe stage, and that the latter will terminate favorably in from four to five weeks after the beginning of the treatment. The dose is from a grain and a half to two grains three or four times a day for every year of the patient, with an occasional large dose for the night.

Of all the medicines advised against whooping-cough I prize belladonna most highly. I have always returned to it after having discontinued it for the purpose of trying one after the other of the many remedies recommended during these thirty years. As early as 1861 I had occasion to express, in the *American Medical Monthly* the following opinion :

"Belladonna is the most powerful remedy in whooping-cough. I scarcely remember a single case in which its administration, for years past, proved unsuccessful in shortening the duration of the process. The result obtained by me has generally been this: that a well-developed case of whooping cough, after the diagnosis was made certain beyond a doubt, would last for only three or five weeks longer, instead of running through its full course of months and quarters of a year. The effect is generally not a sudden one. Many cases in which belladonna is given from the first commencement will become worse for a short while, then remain at their height for some days or a week, and gradually improve in both the character and frequency of the attacks. In others the effect is perceptible from the days after their first administration; the cases soon assuming a more favorable aspect. Such has been my uniform experience during the last five years, in each of which the children of this city have been suffering from a more or less severe epidemic.

"My readers, many of whom, doubtless, have been in the habit of prescribing belladonna in whooping-cough with more or less marked success, need hardly be assured that I claim no priority. Belladonna has been recommended in this disease for many decennia, and has just as long been objected to, as either useless or dangerous. I have touched upon the subject because of my conviction that both the former objection and the latter fear are groundless.

"Belladonna is well-known readily to produce symptoms of poisoning. An amount of two and a half or three grains taken by an adult in the course of a day, of either root or extract, has the effect of dilating the pupils, causing a feeling of dryness in the throat, scintillation and giddiness, and even erythema of the skin. This latter effect is, however, not frequently seen in adults, while the effects on the pupil and brain are very common. It was therefore believed that, as nervous disorders are as common as they are dangerous in infantile age, these effects ought to counter indicate its use; it was stated that it would cause congestion, sopor, acute hydrocephalus and idiocy; and the practical consequence simply was that the dose of the remedy, when given at all in a case where it appeared to be indicated, was entirely too small. Thus, doses of a sixtieth, a forty eighth, a thirtieth of a grain of extract of belladonna, repeated three or four times a day, were deemed sufficient and proper. These doses could not but prove unsatisfactory, and thus it happened that the remedy was misappreciated and given up. The doses, however, administered by me proved successful, because they were really sufficient.

"Infants of six or eight months of age affected with whooping-cough require a sixth of a grain of either the root or the alcoholic extract three times a day; children of three or four years tolerate three doses, each of half a grain. These doses appear to be very large in proportion to those tolerated by adults, but it is a fact which can easily be verified that the effect of belladonna on the pupil and brain will hardly ever be perceptible in children from these or smaller doses. The succession of belladonna symptoms in children differs, moreover, altogether from that in adults; the erythematous and flushed appearance of the face and neck, sometimes even of the whole surface, is the first symptom in infantile age; whereas it is seldom observed in adults, or in cases of thorough poisoning only. Some of the old authors have advised the administration of belladonna to such an extent as to produce the first symptoms of poisoning; others, however, have insisted on this practice being dangerous and wholly objectionable. I, for my part, soon found that those children suffering from whooping-cough who exhibited general erythema from an apparent overdose recovered soon, while others, in whom no such symptom was observed, remained sick for a long time; and continued experience has proved that the occurrence of this symptom is absolutely necessary for the full remedial effect. To obtain a cure in whooping cough the remedy must be given in a dose sufficient to produce erythema, or at least a flushed condition of the face, and, as it were, feverish appearance after every dose of belladonna. Thus the dose is to be gradually increased until this result in obtained. It is a remarkable fact that very young infants may take proportionately large doses: at all events, I do not remember a single case in which less than half a grain was taken in the course of a day. The prescriptions I have been in the habit of ordering are very simple ones. I either give the medicament as a powder, or have the extract dissolved and sweetened according to circumstances.

"The administration of belladonna alone is indicated in such cases of whooping-cough as are not complicated with inflammatory affections of the respiratory organs. The latter take the lead in complicated cases as well in treatment as in the nature and gravity of the symptoms. This is so certain that, whenever a pneumonia coincides with or follows whooping-cough, the peculiar sound of the cough of the latter will disappear, nor return before the inflammatory affection is removed. As this is, moreover, the most dangerous of the two, it requires attention before the other. As to bronchial and laryngeal catarrh, the former especially is a very common symptom in whooping-cough. Where it is but slight it may be considered as unimportant; where, however, it gives rise to fever or dyspnœa, it constitutes a further indication to interfere."

The preparations mentioned above need not be the only ones to be relied on. The tincture of belladonna is a convenient remedy, inasmuch as the dose can be readily and gradually increased. A baby of two years may take three daily doses, the first of which may be six drops. If the flush be perceptible within twenty or thirty minutes, that is the dose; if not, the number of doses must be increased to obtain the effect which must be obtained after every dose. After a few days larger doses are required; there is no case but demands at least twice the amount of the original dose of belladonna within ten or twelve days, or before the disease disappears. Atropiæ sulphas may take the place of belladonna. A child of two years will probably begin with the five-hundredth part of a grain, to be given three times daily, and increased according to the rules stated before.

Since that early time alluded to, Vogel speaks highly of the effect of belladonna, taking the dilatation of the pupils as a guide. As I have mentioned, this effect is rather late in appearing in children, and is not required; indeed, it may become quite uncomfortable. Meigs and Pepper combine belladonna and alum. Evans, in the *Glasgow Medical Journal* of 1880, recommends the administration of a large dose first, to be followed by smaller ones afterwards, and there are not a few authors who have seen immediate good effect following the intended or accidental administration of a large, almost poisonous dose. Indeed, the number of practitioners now relying on the effect of belladonna in whooping-cough is quite large, no matter whether they look for the beneficial action on the laryngeal and other branches of the pneumogastric nerve or on the medulla oblongata, or rely on its influence in modifying reflex action.

Opium is spoken of favorably by a great many. I cannot recommend it for anything like regular administration, but it certainly has a good effect in procuring good nights when given in a single dose. A grain of Dover's powder given to a child of two years, at bedtime, will at all events have the effect of procuring sleep. In a number of cases the combination of opium and belladonna acts quite well. The antagonistic effect claimed for these two drugs is not such as to interfere with the combination of their effects as sedatives.—*One of a series of articles on Therapeutics of Infancy and Childhood in Archives of Pediatrics.*

ABSENCE OF RIGHT PARIETAL BONE.—In a fine, healthy boy, born at full term, the right parietal bone was absent. Over its site the skin was loose and distended with fluid; palpation produced fluctuation. The edge of the surrounding bone could be distinctly defined. One month later the child was again seen. The site was now occupied by bone, except a piece as large as a shilling in the upper part. The bone was firm but somewhat nodular, especially over the site of the space that was last to disappear.—*Archives of Pediatrics.*

APHORISMS IN THE TREATMENT OF URETHRAL STRICTURE.

By A. W. Stein, M.D.

1. Gradual dilatation is unquestionably the safest method of treating urethal stricture. Aside from hemorrhages, abscesses, urinary infiltration, curvature of penis during erection, sloughing of tissue, etc., are the not unusual concomitants of internal urethrotomy. Rigors and urethral fever are also exceptional phenomena in gradual dilatation. Most strictures yield to this method promptly and satisfactorily.

2. The objection usually made to gradual dilatation is that often the patient comes from a distance and seeks speedy relief. To this comes the obvious reply, that we cannot assume risks to the life of our patient in order to save time. But if time is an item, we know what continuous dilatation can do if he will confine himself to the house for a few days.

3. A urethra that is accustomed to instrumental manipulation will tolerate incision better than one that is not so accustomed. Should internal urethrotomy be decided upon, our patient is all the better prepared for having submitted to the obtunding effect which the passage of the instruments occasion.

4. In the pendulous portion of the urethra are strictures often so yielding and resilient that dilating instruments have little or no effect upon them, and it may be said that the nearer such coarctations are to the meatus, the more they partake of this character. Such strictures are only amenable to dilating urethrotomy. But I must say that, while it is exceptional to have rigors with an elevation of temperature follow incisions near the meatus, I now recall at least three instances in which a moderate incision of the meatus, without the subsequent introduction of instruments in the urethra, occasioned very distinct rigors and fever. In one patient, especially, I had not passed an instrument for eight days previous to the meatotomy, and he had, notwithstanding, a sharp attack of urethral fever immediately after the incision, which gave me considerable anxiety at the time.

5. All things being equal, the danger of internal urethrotomy increases with the depth of the stricture, that is, the distance the

coarctation is from the meatus. The bulbous portion of the urethra is, from its anatomical nature, the most dilatable, and experience teaches that the nearer the stricture is to the bulb (not traumatic) the more it is amenable to dilatation. At least not until this has been fairly tried and has failed, should incision of this portion of the canal be thought of, and then :

6. External division is to be preferred to the internal in all strictures requiring incision that are accessible from the perineum (notably if of traumatic origin). In certain quarters across the water our surgical brethren regard the immunity from symptoms, when internal urethrotomy is combined with an external perineal incision as a revelation; but I think I can speak for you, as I certainly know I can for myself, that we have long since learned that anterior strictures, divided internally, are rarely attended with unfavorable symptoms (notably urethral fever) when the urine is diverted from them by a perineal opening.

7. Slight encroachments upon the urethral calibre, when submitted to internal urethrotomy, are not, as a rule, attended with the same inconveniences that follow the operation upon narrow strictures. But strictures of large calibre rarely require cutting, unless, indeed, a superficial contracting band occasions sufficient reflex disturbances to require prompt relief.

8. What has been said of internal urethrotomy applies with redoubled force to divulsion, with this addition : First, that it is unnecessary in the bulbous portion, and second, that wherever employed it is dangerous, rude, inexact and a purely mechanical means that does not exact, and is exempt from, surgical skill. It must be relegated to the dark ages in urethral surgery.

9. The term urethral fever has been objected to and urinary fever substituted, on the assumption that the absorption of urinary constituents is the chief factor in the genesis of the complaint; but I do not think the choice of the substitute a happy one. The first term, at least, expresses the peculiar and characteristic predisposition on the part of the urethra to resent surgical interference, as no other part of the body does. I believe that urethral fever can, in the majority of instances, be proved to be a vaso-motor disturbance of reflex origin, which we may infer from the fact that severe constitutional symptomes sometimes obtain in cases where the stricture is simply overstretched, and where there is no hemorrhage or other

evidence or injury or solution of continuity of any portion of the urethra, whereby the ingress of urinary constituents can result. While the contact of urine with a recently made wound in the urethra is undoubtedly in some way a potent factor in creating constitutional disturbance, it seems improbable that absorption of urine can obtain in sufficient quantity from an epithelial abrasion, produced by the passage of a sound, that is capable of producing in rapid sequence rigors, fever, suppression of urine, uræmic coma and death. If, in response to a laudable curiosity to ascertain the sensations which the introduction of an instrument occasions in others, we pass for ourselves, the first time, presumably, into a healthy urethra, with the utmost delicacy, a blunt-pointed, moderate-sized bougie, we become conscious of a disagreeable feeling, akin to pain, the moment the instrument enters the fossa navicularis, which becomes more and more intense as we approach the deeper parts of the canal and touch the vesical neck. It may be said that this is caused by a denudation of the epithelium from the mucous surface in opening the lumen of the urethra; and that some injury has been inflicted is shown by the fact that the contact of the urine succeeding the passage of the instrument occasions similar pain. But it must be borne in mind that the irritation is only felt during the contact of the urine, and it subsides too soon (generally after the second act of micturition) to suppose it possible that a reproduction of the epithelium has taken place. Above all, I may well question the ground upon which toxic infection, as a factor in urethral fever, is based, since I find that irritable strictures are often cut with advantage, and without producing any disturbance, although the passage of the sound in dilatation almost invariably occasioned it.

10. As to ultimate results, thorough dilatation compares most favorably with urethrotomy. An absolutely radical disappearance of a narrow stricture, if it be possible, is of the rarest occurrence. In strictures of large calibre the results are more favorable, whether treated by internal urethrotomy or by dilatation. But there is evidence at hand that the means adopted for the detection of strictures of large calibre are often deceptive in the extreme, and that urethral obstructions are met with where in reality there is absolutely no pathological change in the canal. That such obstructions are always curable we give ready assent to. Then, again, there may be inflammatory thickening or granulations of the mucous membrane sufficient to impart a distinct sense of unevenness or inequality at some point to the manipu-

lator, but in these cases there is often no organization into a stronger stricture. This obtains in many cases of chronic urethral discharge. I am confident to have seen, and so have you, no doubt, thickening of the urethra disappear permanently with the discharge by the repeated introduction of steel sounds of increasing calibre. I have now a number of such cases prominently in mind that were so treated years ago with permanent benefit. That some of the radical cures of strictures of large calibre by internal urethrotomy were of the nature of temporary indurations of the mucous membrane, and not true strictures by organization, becomes thus highly probable. Finally, that some strictures show but little disposition to contract, is a logical deduction in favor of internal urethrotomy.—*Medical Record—American Lancet.*

PROF. OSCAR J. COSKERY, M.D., Professor of Surgery in the College of Pphysicians and Surgery, died July 6th, after a lingering illness. We remember the pleasant visits of Dr. Coskery to the Fayetteville and Elizabeth City meetings of the Medical Society. At our last meeting his health was very bad, and the announcement of his death will not be a surprise.

DR. DANIEL W. HAND, of St, Paul, Minn,, died on June 1st, of uræmia, in his 55th year. He was born at Cape May Court House, N. J., August 18, 1834. He was educated in arts at Lewisburg, and in medicine at the University of Pennsylvania. From 1857 to the breaking out of the war Dr. Hand resided at St. Paul. His services as regimental surgeon, brigade surgeon and medical director were meritorious and efficient. He was wounded at Fair Oaks. He was a prisoner at Libby prison for a short time. In August, 1864, he was at Newbern, being medical director of the State of North Carolina when yellow fever visited that city, carrying off over twelve hundred of the citizens and eleven of his assistant surgeons. He was attacked by the fever, but recovered quite promptly, although with a renal disease established, which eventually ended his life. In 1865 he returned to St. Paul, and before many years stood in the front rank of the profession of his State. He was for many years the President of the State Board of Health.—*New York Medical Journal.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

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THOMAS F. WOOD, M. D., Wilmington, N. C., } Editors.
GEO. GILLETT THOMAS, M. D., " }

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ALL NORTH CAROLINA PHYSICIANS MUST REGISTER IN THE OFFICE OF THE CLERK OF THE SUPERIOR COURT BEFORE JANUARY 1st, 1890.

We hereby remind our readers that all persons entitled to practice medicine in this State must register in the office of the Clerk of the Superior Court of his county, according to the law, a copy of which has been mailed to every doctor whose address could be found. Read the law carefully and go at once to perform this duty, as neglect to do so, even in the case of one entitled to practice, will put him in the unpleasant position of being an illegal practitioner, and necessitate his going before the Board of Examiners for a license to practice.

We do not think it necessary to define who may register legally, when the printed law sets it forth so distinctly, but we urge on all to register at once.

The first license issued under the new law was issued by S. VanAmringe, C. S. C., to the senior editor of the JOURNAL, bearing date 3d of May, 1889. Several Wilmington physicians are of nearly the same date.

GUILTY OF MISDEMEANOR AND LIABLE TO FINE AND IMPRISONMENT FOR PRACTISING WITHOUT A LICENSE.

The law regulating the practice of medicine, as now amended, may have points in it about which the Supreme Court may have to give its opinion, but the plainest matter which anyone can understand without the aid of the Supreme Court is, that those applicants who failed to secure the license of the Board of Examiners, at their last session, and those persons whose licenses have been revoked, or who, having temporary license, failed at the next regular meeting of the Board to secure a full license, are guilty of a misdemeanor. In every community where such persons are practising illegally the grand jury of the county ought to be notified, in order that the person calling himself doctor without the authority of the law, should be dealt with promptly.

We hold that there is now no excuse for illegal practice. The State has shown every consideration for the unprepared, practically declaring an amnesty, in one sense, to many men who should not be admitted to practice, but for fear of colliding with the presumed principle that the State has no right to pass a retroactive law, the State has now exhausted all of its expedients, its tender solicitude for the unfortunate doctors who are the qualified (ignoring in the meantime the dangers and risks to the lives of the more unfortunate patients of these same doctors), and now stands with the profession in the attitude of waging a war against those men who still persist in violating the plainest terms of the law.

EHRLICH'S TEST FOR TYPHOID FEVER.

In the June JOURNAL we published an article from the *Therapeutic Gazette* giving special directions as to the preparations of the necessary reagents for the detection of typhoid fever. It will be remembered that a saturated solution of sulphanilic acid in a dilute hydrochloric acid (1:20), and another solution of sodic nitrite in distilled water were the reagents. As these chemicals may not be easily obtainable, we have a limited supply from which store we offer to a few friends enough to make some tests, asking only that they give us in return the results of their investigations with it. The reagent is in the stage of probation, but so much is expected from it, we desire to know at an early day what are its true merits.

We have already made some experiments with it and record some preliminary points: 1st. If the urine examined has a considerable amount of urates the reaction will be a red, but it is the red of a solution of bichromate of potash, not characteristic. 2d. In two cases of undoubted typhoid in which the test was not employed until the third week, the reaction was not characteristic, giving the bichromate red only, and not running through several shades to port wine red, but remaining of a permanent hue for several days. 3d. In a case of fever, suspicions only, and in the person of one who the present writer treated nineteen years ago for an undoubted case of enteric fever, the reaction was of a decided cherry tint, different entirely from the bichromate color, which we take to be the characteristic reaction. The tested solution retains its cherry redness for several hours.

It must be observed, then, that the urine must be taken not earlier than the fourth day, and not later than the second week of fever, if we are to expect the characteristic reaction.

If this reagent proves to be what it now promises, it will be of great practical use in diagnosis and prognosis, and doubtless some chemists will be able to furnish in a portable form the two essential ingredients. Sulphanilic acid can be kept easily in solution, but the sodic nitrite is unstable and needs to be made in fresh solution every two or three days. The latter salt comes in sticks of a drachm or two in weight, and will keep easily in a well-stoppered bottle. Such minute quantity of this is needed for the experiment, that it could easily be carried about in a pocket test case, to be used at the bed-side.

REVIEWS AND BOOK NOTICES.

ATLAS OF VENEREAL AND SKIN DISEASES; with original text. By Prince A. Morrow, A.M., M.D. New York: William Wood & Co., 1889.

This elegant work still maintains its high merit. We have before us the 14th and 15th Fasciculi, containing each five plates with many figures of Lupus, Sarcoma, Epithelioma, Leprosy, Scabies, Chromophytosis, Trichophytosis, Eczema Marginatum, etc., etc., through a rich collection of the best portraits from American and German portfolios.

These fasciculi complete the work, and when bound it will make the most superb addition to dermatology in this country. It is a subscription publication, and ought to be secured while the plates are new and fresh. The subscription price is $2.00 a part.

THE PHYSICIANS' LEISURE LIBRARY—I. THE RADICAL CURE OF HERNIA. By Henry O. Marcy, M.D.

The title page further describes the contents of the volume by explaining that it is intended to describe the radical cure of hernia by use of the buried antiseptic animal suture.

Independent of the description of the operation the history of the introduction of animal ligatures from the first hint at it by Thomas Young, of Edinburgh, 1813, Dr. Physick's use of chamois ligatures, Ephraim EcDowell's use of Indian tanned deer-skin in ligaturing the pedicle which he returned into the cavity in his ovariotomies, are all hints which ought to take the conceit out of the more modern discoverers and cause them to look well to their laurels.

The last chapter describes the method of operations, and is illustrated with five apparently original cuts. It is needless to add that the operation has its foundation in the principles of aseptic surgery, and is probably the future operation for hernia.

II. PULMONARY TUBERCULOSIS: ITS ETIOLOGY, SYMPTOMATOLOGY AND THERAPEUTICS. By Prof. Dr. H. Von Ziemssen. Translated by David J. Doherty, A.M., M.D.

This short essay of a hundred and nineteen pages is of absorbing interest. It is the latest utterance of a distinguished teacher on the vast subject of the bacillary origin of phthisis, among many other practical things connected with the prophylaxis and treatment of this disease. That hope for the consumptive is now dawning, there can be no doubt, and such encouragement as we here get is welcome, to doctor and patient. Doubtless much of the matter we get is but flimsy theory and very wide apart from actual curative therapeutics, but the kernel of truth is there and will be harvested some day.

The description of "How to look for tubercle bacilli in sputum" is very short and simple, but there are many better ready-made stains, made to save the country doctor trouble, and these he will always use.

DIPHTHERIA: ITS NATURE AND TREATMENT. By C. E. Billington, M.D., and INTUBATION IN CROUP, by Joseph O'Dwyer, M.D. New York: William Wood & Co., 56 & 58 La Fayette Place, 1889.

This is a beautifully printed volume upon a subject that continues to be important to the medical profession, being in truth *the* scourge of the civilized world next to pulmonary phthisis. Dr. Billington has given us the history of the disease in a very concise and interesting manner, leaving little to be desired.

The author (Dr. B.) thinks in reference to the identity of diphtheria and membranous croup, that as far as our present knowledge serves us to form a conclusion, they are two distinct affections. Dr. O'Dwyer writes in reference to the same question some words of warning as to the practical results of accepting the duality theory of the two diseases. "The much vexed question" of the identity or non-identity of croup and diphtheria would not be a subject of much practical importance were it not for the fact that many lives are sacrificed every year on account of the duality theory. When a case is diagnosticated as membranous croup, no precautions are taken to protect other members of the family, because it is not a contagious disease. I can safely say that at least one-fourth of all the cases that I have been called upon to intubate were regarded as simple fibrinous laryngitis by the attending physicians. In many instances other children in these families subsequently developed diphtheria with fatal results in not a few."

A lithographic plate is inserted to show the difference between follicular tonsolitis and diphtheria of the tonsils and velum, and a rhinoscopic view of the posterior nares in a fatal case of naso-pharyngeal diphtheria.

Dr. O'Dwyer's intubation instruments ars described and figured, by him, up to a recent date. The whole volume is welcomed as a mile-stone on the way, to enable us to determine where we stand, both as to the nature of diphtheria and our armamentarium in combatting it.

A GUIDE TO THERAPEUTICS AND MATERIA MEDICA. By Robert Farquharson, M.P., M.D. Enlarged by Frank Woodbury, A.M., M.D. Lea Brothers & Co., 1889.

This is a small 8vo. volume of a little less than 600 pages, which has met with general favor through its successive editions, and this, the fourth edition, is well up to latest and best additions to current materia medica. More and more perplexity exists with authors in the selection of articles, to include only those that have fairly passed the probationary stage. In this latter difficult matter our author is remarkably successful.

He continues his original plan of giving in parallel columns the physiological and therapeutical action of remedies, concluding the article on "Dose and Mode of Administration" with well constructed prescriptions—an important desideratum for beginners.

The American editor has added in the appendix a chapter on the treatment of poisoning, and an epitome of the National Formulary. For the help of students a list of questions is added for the convenience of students for self-examination.

The paragraph (p. 308) which mentions "dialyzed iron" as having "recently come into fashion" is unfortunately very much out of date. Dialyzed iron has long since gone out of fashion, and we have thereby lost a most excellent preparation, for all that could be said against it was that very few chemists could make it properly. We hope to see it revived.

"Farquharson's Guide" is becoming wider known, and doubtless will be made more acceptable with each revision, as it has in this. It is just the book the young doctor will consult with profit in very many of his daily emergencies, and to all such—yes, and to many of the "grave and reverend seniors" we commend it most heartily.

CURRENT LITERATURE.

VALUE OF SALICYLIC ACID IN DERMATOLOGY.

At a meeting of the American Dermatological Association, at Washington, September 18, 1888, Dr. C. Heitzman, of New York, read a paper on the value of salicylic acid in dermatology, in which he said that he had been using the remedy for the last three years. It has two well-marked properties. The first is the peculiarity of acting on the horny layers of the epidermis. There is no agent so active in softening, and at last destroying, the epidermal formations as salicylic acid. Its other action is as a parasiticide. These two properties open a large field for research. We should be careful not to include cases in which we have merely impressions as to its value; but there are many cases in which there can be no question as to its utility, and in some of these it has never been used before. The remedy may be used as a powder, as a plaster, or in the alcoholic solution. It has the advantages that it does not discolor the skin or linen, and has no odor. It is used in twenty-four kinds of cases. In hyperidrosis its action is well-known. The German soldiers use it in a one per cent. salve, made with tallow, applied to the feet when upon the march. In seborrhea, especially when combined with acne, it has given brilliant resulrs. One per cent. of the acid with six to eight per cent. of sulphur, is an excellent application for dandruff. A prescription with tar Dr. Heitzman likes better, but it is less agreeable to the patients. In urticaria it is an excellent means of allaying the itching. In furunculosis an ointment of six to ten per cent. has prevented an outbreak and checked the disease. But, to be sure of results, the quality of the acid must be guaranteed. In two cases in which the prescription had been filled at random there had been no good results, but when Scheering's salicylic acid was substituted the effect was immediate.

In one case of dermatitis herpetiformis a lotion of the acid proved the best thing the patient had tried, although it was not capable of smothering the disease or preventing recurrences. In psoriasis, after chrysarobin and tar, it is the very thing to be applied, though the peeling off of the scales is not so rapid as with other remedies. In lichen planus salicylic acid is far superior to carbolic acid or corrosive sublimate. It can also be applied over a larger area with safety. It allays the itching, removes the scales and flattens down the papules. The author has prescribed three per cent. solutions, which are to be diluted at the beginning of treatment. Six cases were treated, and all did uniformly well without the administration of arsenic.

In all varieties of eczema the results were satisfactory. Ninety-six cases were treated, generally with one per cent. of the acid, with equal parts or zinc-powder and starch, in two parts of ointment. In eczema madidans one half per cent. is better. Sometimes it may be used as strong as ten per cent., where there is great thickening in the very chronic cases. As the acid does not attack the connective tissue, there can be no caustive effect. In acne a three per cent. solution removes pigment patches, assists in removing comedones, and renders the skin soft. In acne rosacea the results were good, but in sycosis less good. The remedy does not seem to penetrate deep enough between the furrows. In impetigo contagiosa it cures the disease in ten or twelve days. If combined with the liquor gutta-perchæ and some oil to make an emulsion, it adheres to the skin. In keratitis, senilis, callosity, clavus, verruca, its action in removing the thickened portion, is well-known. In ichthyosis it is easy to remove the scales, but they return. In lupus erythematosus and lupus vulgaris the results were brilliant at first, the excrescences flattened down rapidly at first, but not a case was cured. For pruritus, in the shape of a lotion, it is excellent. In tinea the solution with gutta-percha is better than Taylor's remedy. But generally the disease will not be cured by any one remedy, and we are only too glad to have more than one. In tinea versicolor a one per cent. solution is effective.

Dr. Pye Smith, of London, spoke of his use of the remedy in hypertrophic inflammations in the soles of the feet and the palms of the hands where there were fissures; here the effects of the remedy were wonderful. He corroborated what Dr. Heitzman said in reference to the use of the remedy in furunculosis, especially as it occurs in youths or school-boys, sometimes for months together. He believes that the contagion is carried from one point to another in the dressing. In the treatment of the individual pustules he always hardens the surrounding skin by bathing it in lead lotion, thus giving less opportunity for the invasion of the micro-organisms than does the old method of poulticing, which makes the skin sodden and readily permeable. In lichen planus he has tried the salicylic acid with some success, but has found it difficult to follow the cases closely enough to be sure of his ground. He prefers to wait until more material has been collected. In general, he said he felt that there were not enough cases to warrant definite conclusions.

Dr. L. D. Bulkley, of New York, said he had used the remedy largely in many of the cases referred to, and mentioned particularly hyperidrosis of the axilla in women. He uses with great confidence a ten per cent. powder, with one drachm of oxide of zinc, and the rest starch. In eczema care must be used. He has seen acute attacks started up by it. He also mentioned favus of the scalp, in which he considers salicylic acid very valuable in the form of a strong lotion. He has had several cases under observation for several months, and the disease has not yet returned, It is good in seborrhœa, but if it is too strong, even when mixed with oil, the patients come back and say it is too drying.

Dr. A. Van Harlingen, of Philadelphia, uses it in the treatment of chronic eczema of the legs in a paste with glycerine and zinc oxide, made into paste with five per cent. of the acid. If it is carefully applied, the patients go for from three days to a week without redressing.

Dr. E. B. Bronson, of New York, thinks that in most cases we use the remedy as a preliminary measure, as it prepares the surface for other remedies. This is true especially where there is an enormous accumulation of the epidermis, as in cases of seborrhœa. In these cases he has generally been obliged to resort afterward to some other remedies.

Dr. Heitzman, in closing the discussion, says that the field of the remedy in hyperidrosis extends to any portion of the body which is affected, especially the folds of the groin and the genital regions.—*New York Medical Journal.*

THE death is reported of Prof. Robert Ultzmann, MD., of Vienna, at the early age of 47 years. His book on urinary analysis has been translated into English.—*Boston Medical and Surgical Journal.*

THE PREVENTION OF TUBERCULOSIS.

Although much has been written on this gravely important subject, the views of many physicians as to the contagiousness of tuberculosis, and the best means for its prevention, are not fully advanced to the standards of present knowledge. We therefore with pleasure give editorial prominence to the detailed and practical report by Drs. T. M. Prudden, H. M. Biggs and H. P. Loomis, pathologists to the Board of Health of New York City, who, having been requested to formulate a brief and comprehensive statement regarding the contagiousness of tuberculosis and the means of protection therefrom, have submitted the following :

The disease known as tuberculosis, and, when affecting the lungs, as pulmonary tuberculosis (consumption), is very common in the human being and in certain of the domestic animals, especially cattle. About one-fourth of all the deaths occurring in the human being during adult life are caused by it, and nearly one-half the population at some time in life acquire it. The disease is of the same nature in animals and in man, and has the same cause.

It has been proven beyond doubt that a living germ, called the tuberale bacillus is the cause, and the only cause, of tuberculosis. It does not seem necessary to state the facts upon which this assertion is based, for the observations first made by Robert Koch, in 1882, have been confirmed so often and so completely, that they now constitute one of the most absolutely demonstrated facts in medicine.

Tuberculosis may affect any organ of the body, but most frequently first involves the lungs. When the living germs find their way into the body they multiply there, if favorable conditions for their growth exist, and produce small new growths or nodules (tubercles) which tend to soften. The discharges from these softened tubercles, containing the living germs, are thrown off from the body. In pulmonary tuberculosis these discharges constitute, in part, the expectoration. The germs thus thrown off do not grow outside the living human or animal body, except under artificial conditions, although they may retain their vitality and virulence for long periods of time, even when thoroughly dried. As tuberculosis can only result from the action of these germs, it follows from what has just been said that when the disease is acquired it must result from receiving into the body living germs that have come from some other human being or animal affected with the disease.

It has been abundantly established that the disease may be transmitted by meat or milk from tubercular animals. The milk glands in milch cows often become affected with the disease when their lungs are involved, and the milk from such animals may contain the living germs, and is thus capable of producing the disease. Among stall-fed dairy cows 20 or 30 per cent. are sometimes found to be affected with the disease. Tubercular animals are also frequently killed for food; their flesh sometimes contains the germs, and if not thoroughly cooked is capable of transmitting the disease. Boiling the milk, or thoroughly cooking the meat, destroys the germs. Although the meat and milk from tubercular animals constitute actual and important sources of danger, the disease is acquired, as a rule, through its communication from man to man.

Tuberculosis is commonly produced in the lungs (which are the organs most frequently affected), by breathing air in which the living germs are suspended as dust. The material which is coughed up, sometimes in large quantities, by persons suffering from consumption, contain the germs, often in enormous numbers. This material when expectorated frequently lodges in places where it afterwards dries, as on the streets, floors, carpets, clothing, handkerchiefs, etc. After drying, in one way or another, it is very apt to become pulverized and float in the air as dust.

It has been shown experimentally that dust collected from the most varied points, in hospital wards, asylums, private houses, etc., where consumptive patients are present, or have been present, is capable of producing tuberculosis in animals when used for their inoculation. Such dust may retain for weeks its power of producing the disease. On the other hand, dust collected from rooms in institutions or houses that have not been occupied by tubercular patients does not produce the disease when used for the inoculation of animals.

These observations show that where there are cases of pulmonary tuberculosis, under ordinary conditions, the dust surrounding them often contain the tubercle bacilli; and persons inhaling the air in which this dust is suspended may be taking in the living germs. It should, however, be distinctly understood that the breath of tuberculous patients, and the moist sputum received in proper cups, are not elements of danger, but only the dried and pulverized sputum The breath and moist sputum are free from danger, because the germs are not dislodged from moist surfaces by currents of air. If all discharges were destroyed at time of exit from the body, the greatest danger of communication from man to man would be removed.

It then follows, from what has been said, that tuberculosis is a distinctly preventable disease.

It is a well-known fact that some persons, and especially the members of certain families, are particularly liable to tuberculosis, and this liability can be transmitted from parents to children. So marked and so frequent is this liability, and so frequent is the development of the disease in particular families, that the affection has long been considered hereditary. We know that tuberculosis can only be caused by the entrance of the germ into the body; and that this transmitted liability simply renders the individual a more easy prey to the living germs when once they have gained entrance,

The frequent occurrence of several cases of pulmonary tuberculosis in a family is, then, to be explained, not on the supposition that the disease itself has been inherited, but that it has been produced after birth by transmission directly from some affected individual. Where the parents are affected with tuberculosis the children from the earliest moments of life are exposed to the disease under the most favorable conditions for its transmission, for not only is the dust of the house likely to contain the bacilli, but the relationship also between parents and children, especially between mother and child, are of that close and intimate nature especially favorable for the transmission by direct contact.

If, then, tuberculosis is not inherited, the question of prevention resolves itself, principally, into the avoidance of tubercular milk and meat, and the destruction of the discharges, especially the sputum, of tubercular individuals. As to the first means of communication, those measures of prevention alone answer the requirements which embrace the governmental inspection of dairy cows and of animals slaughtered for food, and the rigid exclusion and destruction of all those found to be tubercular.

For the removal of the second means of communication, i. e., the sputum of tubercular individuals—the problem is simple when the patients are confined to their rooms or houses; then wooden or pasteboard cups with covers should always be at hand for the reception of the sputum. These cups are supported in simple racks, and at least once daily, or more frequently, if necessary, should be removed from the racks and thrown with their contents into the fire.

The disposition of the expectoration of persons who are not confined to their rooms or homes is a far more difficult problem. The expectoration certainly should not be discharged on the street, and the only practical means for its collection seems to be in handkerchiefs, which, when soiled, should at the earliest possible moment be soaked in a solution of five per cent. carbolic acid and then boiled and washed. Handkerchiefs thus soiled are exceedingly dangerous factors in distributing tubercle bacilli; for when the sputum becomes dry, it is easily separated in flakes from the cloth, and then soon becomes pulverized and suspended as dust.

It becomes evident from what has been said, that the means which will most certainly prevent the spread of this disease from one individual to another, are those of scrupulous cleanliness regarding the sputum. These means lie largely within the power of the affected individual. It is, furthermore, to be remembered that consumption is not always, as was formerly supposed, a fatal disease, but that it is in very many cases a distinctly curable affection.

An individual who is well on the road to recovery may, if he does not with the greatest care destroy his sputum, diminish greatly his chances of recovery, by self-inoculation.

While the greatest danger of the spread of the disease from the sick to the well is in private houses and in hospitals, yet, if this danger is thoroughly appreciated it is, for the most part, quite under control, through the immediate destruction of the sputum and the enforcement of habits of cleanliness. But in places of public assembly, such as churches and theatres, particularly the latter, the conditions are different, and safety would seem to depend largely upon a dilution and partial removal of the floating and possibly dangerous dust by means of adequate ventilation.

Rooms in private houses and hospital wards that are occupied by phthisical patients should from time to time be thoroughly cleaned and disinfected, and this should always be done after they are vacated, before they are again occupied by other individuals.

Steamship companies should be obliged to furnish separate apartments for consumptive persons, so that no person in the exigencies of travel need be forced to share his room with one who might be a source of active danger to him.

We desire especially to emphasize the following facts:

1. That tuberculosis is a distinctly preventable disease.

2. That it is not directly inherited; and

3. That it is acquired by the direct transmission of the tubercle bacilli from the sick to the healthy, usually by means of the dried and pulverized sputum floating as dust in the air.

The measures, then, which are suggested for the prevention of the spread of tuberculosis are:

1. The security of the public against tubercular meat and milk, attained by a system of rigid official inspection of cattle.

2. The dissemination among the people of the knowledge that every tubercular person may be a source of actual danger to his associates, if the discharges from the lungs are not immediately destroyed or rendered harmless; and

3. The careful disinfection of rooms and hospital wards that are occupied or have been occupied by phthisical patients.—*Med. Age.*

PHLEGMON OF THE HAND.

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Case 2.—This patient presents with a phlegmonous inflammation of the commissure of the index-finger and thumb. You will bear in mind that the radial artery passes through this place, and an incision made through it is apt to injure that vessel.

This trouble, the patient says, has been going on for two weeks. Had it been attended to sooner it might have saved him considerable time and trouble. It will now be two weeks more before the wound will close up again.

This is a subject of very great practical importance to us, for it is just such cases as this that furnish a very large proportion of the surgical work done by every practitioner of medicine. There is, in my opinion, no better test of the surgical ability of a young physician than his manner of treating just such cases as this one. In the surgical management of these cases there are two courses that will be pursued, and we will now briefly examine these two courses.

Let us first of all recall to mind the natural history of that procesr that goes on in the soft parts of the palmar surface when one of these inflammations, which is commonly known as a felon, is going on. These inflammatory processes are generally suppurative in character and take their origin from some superficial injury to the integuments. The wound is either infected at the time of the injury, or it becomes subsequently poisoned by being brought into direct contact with the products of decomposition, as is generally found in the case of laboring men, butchers, cooks, waiters and others. The hands of these men are in contact with substances that are moist and infectious, and such people as these furnish a large proportion of the cases that habitually suffer from felons.

Now, we will say, they will inflict a slight injury on the palmar surface of the little finger, for example. Instead of attending to that injury, on the contrary, they neglect it, and as a result of that neglect, any infectious material with which the finger is brought into contact will be carried into it by the lymphatics. Had the injury been severe enough to cause a hemorrhage, the stream of blood would wash away from the wound any decomposing or poisonous element, and the infliction of any subsequent injury would be refrained from, owing to the fact that the wound hurts the patient.

If you watch your own finger when you inflict a slight injury that causes no hemorrhage, you will notice the following process take place: The lymphatics have been opened, and, as a result of that, a very clear lymph material is exuded. If you do not wipe that away a thin crust forms over the wound in a short space of time. Every decomposing material brought into contact with the wound, while it is fresh, is carried by the lymphatics deep into the tissues, but the patient does not observe anything going on. The next morning he notices a small area of redness around the part and experiences some pain. This, however, does not deter him from continuing the work. and thus causing more mechanical irritation. Mechanical irritation consists in the pumping in, as it were, by reiterated muscular contraction of the pus-generating material into the deep-seated lymphatics. In certain portions of the body the circulation of the venous blood and lymph would be at once arrested if there were no other force at work than the contraction of the heart to overcome the law of gravity. That propulsive force is furnished by muscular contraction.

Now, in order to engage your attention more fully in this matter, let me state to you a well-known fact, viz: that a felon of the little finger or thumb is much more to be dreaded than a similar trouble situated on either one of the three middle fingers. In the case of a felon situated on either the little finger or thumb the suppurative process has a very marked tendency to run up to the arm. On the other hand, a felon situated on either of the three middle fingers will ordinarily run no further than the ball of the respective finger and perforate that region.

In order to thoroughly understand this peculiarity it will be necessary to study the anatomical relationship of the tendons and sheaths of these parts. In dissecting the palmar region of the hand you notice, as a rule, that the synovial sheath of the flexor tendons of thumb and little finger run into a common bursa in the palm of the hand. The sheaths of the flexor tendons of the three middle fingers, however, end proximally in a blind sac each. Therefore, when an inflammation attacks the little finger or thumb, the natural direction of the inflammation is towards the point of least resistance. After entering the common bursa of the hand it will proceed under the carpal ligament to the arm, and you have an inflammation that may, if unchecked, gradually destroy the usefulness of the arm, proceeding from a small focus in the little finger. When inflammation attacks either of the three middle fingers the pus usually perforates at the ball of the respective finger, and does no further damage than what has already been inflicted on the affected finger.

Now, realizing fully the dangers of a felon situated on either the little finger or thumb, what is our duty to the patient? We know, under the circumstances, that the safety of the entire arm is threatened. The man's bread and butter is to be earned by the cunning and skill of his hand and arm, and a very great responsibility devolves on the surgeon. We shall now see what is the proper course to pursue in these cases.

1. What is a phlegmonous inflammation or swelling of the palm of the hand? It is a septic, suppurative inflammation, developing in tissues extremely dense. And what is the direct result of an acute suppurative inflammation, developing rapidly in dense tissue? The affected structures will be subjected to very great tension—greater

than where the parts are soft and yielding, and as a consequence you have an occlusion of the minute vessels that carry blood to the tissues. As a result of this occlusion necrosis of these parts is produced. In that issue of the human body in which the highest known tension develops, becaase of its density and rigidity, viz: bone, suppuration at once causes necrosis, or partial death. What, then, is to be done in order to prevent this death? When the focus in that tissue is minute, containing but one or two drops of pus, when the patient's temperature is 104° or 105° F., when he has a headache and his tongue is foul and coated, when he has chills and cannot sleep at night, when he complains of a terrible throbbing pain in his hand, there can be no doubt in the mind of an intelligent surgeon that there is some serious trouble brewing, when so small a focus of inflammation throws the sufferer into such a state. If you have all these symptoms and are convinced that you have a focus of high tension developing, your first indication is to relieve that tension at once. How are you to accomplish that result? Is it by telling your patient to put his hand in hot water, or by the use of poultices, or by some internal medication, or by painting the skin with ointment or other material? No. Having found out the focus, you will take the scalpel and plunge it right down to the bone. If you have struck the right spot, when you again withdraw the knife three or four drops of pus will follow, and that means that the finger of your patient has been saved from great danger by this little operation. The man who waits until the entire finger or hand is involved, is no surgeon at all. The true conservative surgeon is he who will prevent the loss of a phalanx or a tendon, and will thus avoid the necessity for amputating the finger, hand or arm. That is what I would call conservatism. In former days "conservatism" meant the horror of the knife; now-a-days the conservative man is the one who *conserves* the tissues and life of his patient, whether it be by the knife or other effective means.

I will further say to you that if you relieve tension you will prevent the extension of that inflammation, even though you do not strike the exact spot where the minute focus of pus is situated. Even so, you have done your patient invaluable service, because the focus of disease will work its way in time into the incision. But, you may say, in the palm of the hand is situated a vessel I do not care to injure, viz: the superficial palmar arch. That is a bugbear that need not alarm you in the least. There are ways and means by which you can avoid wounding that vessel, and I will give you a few points that may help to guide you in making your incision. The palm of the hand is marked by a number of creases of the skin that resemble a capital *M*. Avoid that portion of the triangle bounded by the lines of this *M*, that occupies about the centre of the palm. It does not comprise more than a square inch.

A classical symptom of all deep-seated acute suppurative inflammations is that the skin over the affected area is abnormally pale in the beginning of the process. Acute osteomyelitis is popularly known as "hot white swelling" in contradistinction to the cold white swelling of tuberculosis of the joints. So in deep palmar suppuration you have pallor with dense swelling. Fluctuation you do not find. What, then, is the guide that is to lead you to discover the little focus of inflammation which may contain but a few drops of pus? Take a probe and first palpate in a general way so as to locate the place where the greatest pain is felt. When you touch the spot where the greatest pain is felt and the most intense sensitiveness exists, tell your patient to turn away his head and repeat the same process a couple of times until you are satisfied that the point of your probe has repeatedly touched the same precise locality pronounced by the patient to be the most sensitive. Then, having marked that precise spot, take your tenotomy knife, and, having applied local anæsthesia, plunge the instrument well into the tissues beyond the fascia. Should more than a few drops of pus escape, then the puncture must be extended to an incision. In order to prevent subsequent closure of the wound, take a small strip of antiseptic gauze and pass it into the aperture on the end of your probe. Then put on a moist dressing so as to prevent inspissation and the formation of a crust, and you have performed an act of conservative surgery of higher value to the patient and more creditable to yourself than the most brilliant amputation.—A. G. GERSTER, M.D., *in International Journal of Surgery.*

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PROGRESS IN MEDICAL EDUCATION.—The Iowa State Board of Health has decided that Iowa Medical Colleges, after 1891, must give a four years course if they desire their graduates to be admitted to practice within the borders of the Commonwealth.—*Medical Age.*

PROGNOSIS IN HEART DISEASE.

At a recent meeting of the "*Verein fü innere Medicin*," Dr. Leyden discussed the prognosis of diseases of the heart. The question, he said, presented great difficulties, depending not only on the object, but on the mode, of treatment. The difficulties were intensified by the fact that but few previous works were available. Most that had been written on the subject was to be found in English literature, the practical bent of English medicine showing itself in this also. The handbooks of Williams, Walshe and Bristowe contained observations bearing on the matter. Broadbent and Sir Andrew Clarke had delivered remarkable addresses on the subject. In America, Da Costa might be mentioned. The German text-books did not deal with the question with the precision and completeness that could be desired. He might, however, refer to essays by G. Mayer and Lewinsky.

Until a short time ago the prognosis of heart disease was looked upon as extremely bad. This universal opinion was enshrined in Corvisart's quotation, "*hæret lateri lethalis arundo.*" A more hopeful outlook had for the first time been taken quite recently. Experience had shown that many sufferers from heart disease lived in fairly comfortable ease. The lay public did not take so pessimistic a view of the matter as before. The gloomy prognosis laid down by Corvisart appeared to be confirmed by the fact that persons with diseased hearts often died suddenly. From this it was concluded that such patients were never safe any single instant of their lives. Closer examination, however—especially by English physicians—had shown that in the majority of chronic heart affections sudden death was rare, except in the case of inadequacy of the aortic valves (aortic regurgitation) and true angina pectoris (of Heberden). For both these diseases the proposition holds good that the patient is not safe any day of his life; but life may nevertheless be prolonged for years. In relation to aortic insufficiency, Dr. Leyden had had a very large experience, both in hospital and private practice. In other kinds of vulvular inadequacy sudden death was comparatively rare; in mitral incompetence it occurred in about two per cent. of the cases, that is to say, so seldom that the practitioner might leave this unfortunate termination out of account.

Further observations on prognosis might be grouped under three heads: (1) with reference to general disposition and circumstances of life; (2) with reference to special groups of cardiac affections; (3) with reference to particular physical and physiologico-pathological symptoms. In connection with the first of these, the age must first be considered. Young children bear heart disease very badly. In adolescence and early adult life the prognosis is better. This depends on the fact thas at that age those forms of cardiac affection chiefly occur in which the prognosis is relatively favorable. At more advanced periods of life heart diseases are for the most part associated with the arterio-sclerosis. This often became developed at a very early stage. Arterio-sclerosis had always a progressive tendency; this progressive character might, however, be very gradual. Compensative changes were easily brought about in more mature years. But precisely because of this progressive tendency those forms of vulvular insufficiency presented an unfavorable prognosis.

The second general etiological factor was the sex. The prognosis was, on the whole, better in the female than in the male sex. If this was less clearly the case in hospital than in private practice, that was due to the fact that women of the lower classes led a life exposed to the same hard work, the same mental disturbances, and partly the same excesses as men. In women of the upper classes these etiological factors were wanting. Arterio-sclerosis was, moreover, less frequent in the male sex, and even in families in which it was hereditary it affected the female members to a less extent. The female character was better adapted to bear troubles. Finally, experience proved that in women mitral incompetence, in which the prognosis was good, was more frequent than aortic insufficiency.

A third factor was to be found in the patient's circumstances and manner of life. Hard bodily labor was the most dangerous enemy to sufferers from cardiac disease. Even mental emotion often aggravated the condition. The less disturbed by worry the patient's life was, the more care he took of himself, the better was the prognosis; therefore the patients in better and easier circumstances bore heart affections better than persons less fortunately situated. A further point was connected with the possibility of treatment and the reaction of the constitution to medicines, of which digitalis was the most important. The right use of that drug was one of the most difficult problems in medicine. As long as digitalis produced its proper effect the prognosis was fair; if it failed, the prognosis became less favorable, as the effect of other drugs and therapeutic measures was far less certain.

From the diagnostic point of view three classes of heart affections have to be distinguished: (1) Organic defect or disease; (2) disease of the heart muscle; (3) vulvular incompetency.

1. With regard to the first of these divisions, the first question which has to be decided in the case of every patient who comes to a physician with disease of the heart is whether the disease is or is not organic—that is to say, whether a definite anatomical lesion underlies the symptoms. The inorganic affections are also designated nervous, neurasthenic, or functional disorders. The distinction between these and organic diseases is sharply defined, so that in a given case it is always easy to discriminate the one from the other. The answer to this initial question is always of the greatest importance, as a much better prognosis can be given in all merely functional affections. Nevertheless, even nervous affections of the heart are, in exceptional cases, especially in elderly persons, attended with evil consequences, and sudden death has been occasionally known to occur from start or fright. That the disease is inorganic may be presumed when accurate physical examination fails to reveal any abnormality. This proposition holds good with two exceptions. Murmurs, almost always systolic in time and loudest at the apex, may be heard in cases of inorganic disease; even dilatation may be present, as in Basedow's disease. On the other hand, there may be deep organic disease without any abnormality whatever discoverable by physical methods. These circumstances render the diagnostic and prognostic estimate of a particular case difficult. It is no longer possible to affirm that a heart in which murmurs are heard is diseased, and one in which no abnormal physical signs are present is healthy. Angina pectoris is very important in this connection. Three principal forms of that affection can be distinguished, namely, (*a*) angina pectoris vera, depending on disease of the coronary arteries, (*b*) angina pectoris symptomatica, which is occasionally met with in all forms of heart disease, and (*c*) angina pectoris nervosa. The first and third of these give rise to no physical signs, but are of very different importance. The whole circumstances of the case must, therefore, be taken into account. In elderly people, especially of the male sex, the disease is more likely to be of the organic form: in younger persons, particularly of the female sex, the probability is that it is of nervous origin. Nervous angina pectoris is, however, also met with in elderly men. As already pointed out, dilatation may occur in Basedow's disease. In such a case, however, the prognosis is

not unfavorable in proportion to the severity of the symptoms. Only when the condition is very pronounced, and when complications are present, is life threatened. With regard to the cardiac affections, which are associated with disease of the spinal cord, not much is known. In tabes, a form of angina pectoris is met with, whilst progressive muscular atrophy and bulbar paralysis often terminate with symptoms of paralysis of the heart.

2. With regard to the second of the three classes above mentioned, diseases of the myocardium—if those lesions of the heart muscle which are induced by incompetence of the valves be included under this head—constitute perhaps the most important point of the whole subject. The diagnosis of them is difficult, as they are only in small part open to physical methods. Those which can be diagnosed by physical signs may be arranged in three groups—hypertrophy, dilatation and want of power or weakness of the heart. In addition to these there are combinations of them, besides intermediate forms. The prognosis depends on the dangers which the structural changes entail, and on their amenability for treatment. Hypertrophy is not a disease in itself, and does not call for treatment. This point has been particularly emphasized by English physicians. Hypertrophy is the expression or the consequence of severe disease outside the heart—in the arterial system or in the kidneys. The prognosis depends on the gravity of the primary disease. In spite of the presence of hypertrophy, weak action of the heart may occur.

Dilatation is one of the most important conditions of the heart from the point of view of prognosis. It is the result of stretching of the muscular substance of the heart, and so far has a less favorable prognosis than hypertrophy. The physician must ask himself whether all dilatations are of equal importance, and whether the condition is susceptible of cure, or rather of improvement, by natural processes, or by medical treatment. There can be no doubt that important differences exist with respect to etiology no less than to prognosis. In the first place, dilatations which are consecutive to valvular incompetence must be distinguished from those which to all appearance occur independently of any previous lesion, and which O. Fräntzel has termed "idiopathic" dilatations. It must be borne in mind that, on the whole, dilatations of the right heart are of less importance than those of the left ventricle. The former may become developed suddenly, and may as suddenly disappear.

Hypertrophy of the right ventricle is not so easily retrogressive. Dilatations of the left ventricle are, on the other hand, of the greatest importance, although it cannot be disputed that even these have been cured in particular cases. This holds good especially of dilatations which come on rapidly after acute diease. Traube observed them in acute articular rheumatism; they occur also after typhoid fever, measles, scarlatina, diphtheria and erysipelas. The slighter forms reveal themselves only by "galloping" sounds; in more advanced cases there is displacement of the apex beat. All these dilatations are susceptible of cure, but it cannot be said that they are free from danger or always curable. Even dilatations of the left ventricle following overstrain, as also those occurring in Basedow's disease, may disappear. Dilatations which have been a long time in developing are less favorable in point of prognosis. In these cases the prognosis in individual cases depends on the degree of dilatation, the nature of the primary disease and the amount of compensatory change. If the primary disease is in itself an independent progressive process, such as arterio-sclerosis, the prognosis is unfavorable. It is true that an attempt may be made to improve the efficiency of the heart muscle, but in the majority of cases in which the condition is well-marked this will be only temporarily successful.

The newer methods of cardiac therapeusis—Oertel's dietetico-mechanical and Zander's gymnastic system, and balneological treatment—open up a prospect of the possibility of something more being done for those cases than has been accomplished by the treatment hitherto employed. Weakness of the heart's action has different causes, and correspondingly different prognoses. Fainting fits in young, nervous persons must always be judged differently from similar attacks in elderly men who are possibly the subjects of arterio-sclerosis. Acute weakness of the heart in febrile diseases must always be looked upon as a serious matter. Chronic weakness from valvular incompetence is also unfavorable. The new methods of treatment already referred to will have a good effect in this condition by increasing the size of the heart muscle. Weakness of the heart often depends on fattiness of that organ. A distinction must be made between cardiac disease due to accumulation of fat on the heart and that due to fatty degeneration of its substance. As long as there is no considerable alteration of structure in fatty heart, the prognosis is not bad. It is doubtful when dilatation is established. The prognosis in fatty degeneration is always bad.

3. With regard to the third class of cases, in which there is valvular insufficiency, in the first place it cannot be denied that cases of recovery occur (Beneke, Gerhardt). This happens most frequently in the case of recent mitral inadequacy which has come on with chorea. Recovery sometimes occurs, even in cases of aortic insufficiency. It must be recollected, however, that no inference as to cure can be drawn from the disappearance of a diastolic murmur. The further question, whether, without cure of the defect, the patient can be to a certain extent fit for work, and can have any enjoyment in life, is a very important one. It must be remembered that not infrequently heart disease is discovered accidentally in persons who feel perfectly well. There are cases of valvular lesion in which compensation remains complete through a series of years. Practitioners are not yet agreed as to the conclusion to be come to in such cases in relation to marriage, life insurance, etc.

The prognosis of aortic insufficiency depending on arterio-sclerosis is most unfavorable. If, besides the diastolic murmur, a heart-sound can be heard, and there is no arterio-sclerosis, the effect can be better borne. Further, the degree of hypertrophy in the left ventricle is of importance. The diagnosis is relatively better in simple mitral inadequacy. It is a mistake to take the loudness of the murmur as a guide in prognosis. The underlying essential disease is the important matter. If this is progressive, as in arterio sclerosis, the prognosis is bad; it is also mostly unfavorable in acute febrile ulcerative endocarditis. It is comparatively good in cardiac affections consecutive to acute diseases, such as measles, scarlatina, typhoid, articular rheumatism; in the case of the last-mentioned disease, however, both it and the endocarditis are apt to recur. Leaving the form of affection out of account, the prognosis depends on the condition of the heart muscle. Robust, well-nourished persons in good circumstances bear heart disease better than others. On the whole, the prognosis is better in systolic than in diastolic murmurs. A large number of systolic murmurs do originate within the heart, and even a considerable proportion of endocardial murmurs may disappear; only systolic murmurs with an arterio-sclerotic basis of serious import.

With regard to rhythmical irregularities, intermittence and arhythmia must be considered. The stoppage of the pulse has as such no serious prognostic significance; it may arise reflexly from the most diverse causes. Arhythmia is often habitual and of no importance. On the other hand, delirium cordis and tremor cordis are always suspicious. Tachycardia, as the expression of commencing or established paralysis of the vagus, is never unimportant. In fever a pulse of 120 is suspicious; only in children suffering from acute exanthemata can a higher pulse-rate be tolerated for any length of time without injury. Slowness of the pulse, on the other hand, is not of itself suspicious; it is often. however, a sign of weakness and an indication for strengthening treatment and a contraindication of digitalis. Permanent slowness of the pulse, when there is ground for suspecting arterio-sclerosis of the coronary arteries, is always risky. Not infrequently sudden death occurs under these circumstances.—*British Medical Journal.*

NITRATE OF SILVER IN PURPURA HÆMORRHAGIA.

Certain authors divide purpura into two forms—the sthenic and asthenic—a distinction which may be of service in furnishing therapeutic indications. The sthenic form is generally recognized by the pulse and the general state of the patient, and it may be imagined that in this form the walls of the capillaries are ruptured, without any alterations in their structure, on account of the exaggerated pressure in the circulatory system. In this form, reducing treatment is evidently indicated, and it is claimed that diminishing the blood-pressure will produce curative results. By far the greater number of cases of purpura hæmorrhagica, however, of the asthenic or cachectic form, of which the termination is so often fatal. In this form there is more or less diminution in the red corpuscles and the solids of the blood, with augmentation of the white corpuscles, the great danger being in the incessant tendency to hemorrhage, which finally leads to fatal prostration. In such cases the state of the patient calls for an improvement in the health of the patient, and to the building up of his strength rather than to depletion. As a consequence, vegetable acids, especially citric acid, mineral acids, hemostatic astringents, all occupy the first rank as remedies which are indicated; ergot also, in subcutaneous injections in the form of ergotine, may likewise prove efficacious. To this list of remedies Dr. V. Poulet (*Bulletin Général de Thérapeutique*, May 30, 1889) would add nitrate of silver, since he believes that the admirable results which this remedy produces in the treatment of purpura would almost warrant attributing to this remedy the possession of some specific properties. In support of this view Dr. Poulet reports two cases of purpura, which, he stated, were taken from his record of numerous others. In the first of these the hemorrhage resisted the most varied and energetic forms of treatment, such as hypodermic injections of ergotine, tamponing the nasal passages, etc., and finally yielded to the internal administration of the nitrate of silver. In the second case, the remedies employed were less numerous, but equally fruitless; and here also nitrate of silver was especially efficacious, for, in a short time, all tendency to the formation of purpuric effusions disappeared and the tendency to hemorrhages was entirely overcome. Dr. Poulet believes that nitrate of silver produces this effect in these affections by its action on the vaso-motor supply of the capillaries. He administers 1-6 of a grain of nitrate of silver twice daily in pill form, teking care to give it at least half an hour after eating.—*Therapeutic Gazette.*

THE BILIARY SECRETION IN MAN.

In the *Lancet* for June 1 and May 23 Mr. S. M. Copeman publishes an account of a biliary fistula occurring in a man, with some observations on the bile obtained from it. He finds (1) the normal amount of bile secreted by the liver is about forty-eight ounces, or two and a half pints, per diem in a man of twelve-stone; (2) the rate of flow varies in accordance with the time of ingestion of food, there being usually a rise between one and two hours after a meal. The secretion, moreover, is not a continuous one, the bile being extruded into the gall-bladder by repeated peristaltic contractions of the bile-ducts; (3) the color of the bile in man is probably always of an olive-green, biliverdin, and not bilirubin, being the pigment which is present in the greater quantity; (4) the amount of solids present is normally about ten per cent., this percentage being kept up by a continuous reabsorption of the bile salts from the intestine following on their secretion; the specific gravity of the bile falling when it is drained away as fast as formed, as occurs in a fistula. The amount may also be increased after the bile is first formed by absorption through the walls of the gall-bladder; (5) bile is necessary to the assimilation of fats; but not absolutely so, although doubtless of use, for that of proteids. Its purgative action is more than doubtful; (6) the bile has no true antiseptic action, although it is able to a small extent to control putrefactive changes; (7) stercobilin probably is formed by reduction of the bile pigments in the intestine; but urobilin appears to be formed in the liver, together with the bile pigments, by a slight change of metabolism.—*Therapeutic Gazette.*

A NEW MODE OF ADMINISTERING COD-LIVER OIL

M. Lefaki calls attention to a method of administering cod-liver oil which seems to possess considerable advantage (*Journal de Médecine et de Chirurgie*, May, 1889). If equal parts of cod-liver oil and lime-water are mixed together, a milky liquid is obtained which is inodorous, has the consistency of syrup, and may be flavored at will either with lemon syrup or vanilla, or other extract. The cod-liver oil thus saponified is almost agreeable to the taste, does not adhere to the mouth, and does not leave any nauseous after-taste. In addition to these advantages saponified cod-liver oil is preferable to the various emulsions which are on the market. In the first place, it is permanent, the fluid remaining homogeneous. It is readily assimilated even by weak stomachs; it may be administered even during diarrhœa; besides, it is combined with calcareous elements, which are likewise indicated in the affections which call for the use of cod-liver oil. Of course, the saponified oil may be associated with the phosphates or the hypophosphites of lime. Finally, it may be readily and rapidly prepared, and is of low price.—*Therapeutic Gazette.*

SPLENECTOMY — RECOVERY — CONDITION OF BLOOD MORE THAN A YEAR AFTERWARDS.

Dr. W. N. Maccall reports a case of splenectomy in a Jewess. Her spleen enlarged from repeated attacks of ague. Her enlarged spleen was mistaken for either left ovarian or peri-uterine tumor. Notes taken some years after the tumor first appeared: "The tumor is now centrally situated, lying in front of the uterus, extending from the pubes to the umbilicus, and measuring fully nine inches transversely. It is still painless, fairly firm, and smooth to pressure, and the fingers, pressed firmly behind it at the sides, feel firm rounded edges. It is still slightly movable, and evidently not attached to the uterus." I said: "This is *not* an ovarian tumor, as I had supposed; I have already decided that it is *not* uterine, but I am not at all sure what it *is*." Sir Spencer Wells decided it to be an enlarged and displaced spleen. In attempting to force the spleen into another position that she ruptured it, without breaking the capsule, as the flanks remained clear and the tumor fairly well defined. She was aspirated and ten pints of a somewhat thick reddish-brown fluid was withdrawn. There was early reäccumulation of the fluid, then Sir Spencer Wells agreed to operate. The tumor removed weighed four pounds. There were extensive adhesions. The splenic vessels were secured by silk ligatures. The patient was greatly exhausted after the operation, although there was little blood lost.

After a very tedious convalescence of three months, involving great care from physicians and nurses, she recovered. Blood removed from the spleen more than a year after the operation was examined by Dr. Dreschfeld. The blood, to the naked eye, had a perfectly normal appearance, and coagulated in the usual way. Examined microscopically, the blood appeared perfectly normal. The red blood corpuscles were of normal size and appearance: no poikilocytes, very few microcytes. The leucocytes were present in normal proportion. They were of the normal size, and, on the addition of acetic acid, showed compound nuclei. Examined with Gower's hæmocytometer, the average of several examinations showed 4,500,000 red blood corpuscles per cubic millimètre, and about 7,000 colorless corpuscles per cubic millimètre. Examined with hæmoglobinometer, the quantity of hæmoglobin was between 75 and 80 p. c.

PSORALEA (BUCK ROOT).

Prof. Maisch, in *The American Journal of Pharmacy*, gives some interesting notes on a genus of plants belonging to the Leguminosæ, which has heretofore attracted general attention by one of the western species *Psoralea esculenta*, which has long been known as a food among the Western Indians. It was introduced into France as a substitute for the potato, and became known as *picquotaine*, but was unsuccesful. Prof. Maisch quotes Mr. Clifford Richardson, of Washington, D. C.. and Dr. V. Havard, Surgeon U. S. A., for a botanical and chemical account of it. It seems that the plant has 69.60 of starch; 4.77, sugar; sweet substance soluble in water, 1.14, but no medicinal ingredient.

We have for sometime known that some of the physicians and druggists in Tarborough were interested in another species—*Psoralea melilotoides.* Prof. Maisch gives some items from investigations by Mr. Augustus Bradley and Mr. E. D. McNair, of Tarborough. The local names of the plant are given as Samson's snake-root, congo-root, pigtail root and Bob's root: the first of these names was long ago applied to no less than four gentians in the State. Mr. McNair obtained from the plant 2 p. c. of a volatile oil, having a bitter, pungent taste and neutral reaction. Starch is present, and a bitter principle which has not been isolated. Dr. Mettauer (in 1867) attributed to the root the properties of an aromatic bitter tonic and nervine, used by the negroes in an affection of the digestive organs known as poison. Mr. McNair has made a number of galenical preparations—Tinctura Psoralea composita, following the formula for Co. Tinct. Gentian, substituting psoralea for the gentian.

Psoralea canescens, known by the common name of Buck Root, is a species known to the negroes and country people in the Cape Fear district, is a hoary-pubescent plant, resembling a Baptisia. Its root differs from *Psoralea melilotoides,* being even—that is, not rugose. It is a little denser than a sweet potato, has a slightly sweet taste. This root is chewed for dyspepsia, and has about the same local repute as Sarracenia flava.

CORRESPONDENCE.

CALOMEL AND BICARBONATE OF SODA.

Messrs. Editors North Carolina Medical Journal:

I have often been asked by patients why we combine bicarbonate of soda with calomel. While it is not a general custom, yet very many physicians give this as a routine prescription. Why is the combination made? What is the difference in physiological action of calomel with bicarbonate of soda, or without? "There is some evidence to show that in the pressnce of bicarbonate of soda decomposition of calomel may take place, to a small extent, corrosive sublimate and metallic mercury being formed—that at the same time sodium chloride may be produced (carbon dioxide being evolved, and one or other of the two oxides of mercury being formed), and that the mercuric chloride (corrosive sublimate) and sodium chloride may combine to produce the double salt. Na. Cl. Hg. Cl.^{2}, ^2H_2O, or ^{2}Na. Cl. Hg. Cl.^{2} (both of which have been obtained.")

This is what I was taught. Now, I will ask if it is judicious to administer such a mixture if it has been long kept? If taken after being in the hands of a patient a long time shall we not expect too much increased violence of physiological effect?

Any brother making this matter clear will oblige.

J. A. Faison, M.D.

Mt. Olive, N. C.

* * *

Novel Method of Detecting a Perforation of the Membrana Tympani.—In the *Boston Medical and Surgical Journal* for May 30, 1889, Dr. E. D. Spear calls attention to the following novel method of detecting a perforation of the membrana tympani: "While looking into the auditory canal in the ordinary manner, with speculum and mirror, hold a piece of clear, cold glass close to the speculum, have the patient do the "Valsalvian" experiment, and if a perforation exists the vapor of the breath will be condensed upon the glass and obscure the view.—*Therapeutic Gazette.*

SUCCUS ALTERANS.

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CCUS ALTERANS is a purely vegetable compound of the preserved juices of Stillingia Sylvatica, Lappa Minor, Phytolacca Decandra, Smilax Sarsaparilia and Xanthoxylum Carolinianum, as collected by Dr. Geo. W. McDade exclusively for Eli Lilly & Co., and endorsed by Dr. J. Marion Sims.

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IYSICIANS who have not received Dr. McDade's latest publication, the Monographia Syphilitica, should send their address, mentioning this journal, and we will mail a copy. It contains a paper, illustrated with colored plates, by Dr. D. H Goodwillie, of New York, on the "Sequelæ of Syphilis," reports of cases in practice and many other valuable papers.

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Pepsin in Infantile Diarrhœa.

Statistics show that the mortality rate of infantile diarrhœa, as it manifests itself in the summer months, is higher than that of any other disease.

Unhygienic conditions and improper nourishment, aggravated by high temperature, are the chief causes assigned for the prevalence of this disorder. How to effectually remove or overcome these causes is a question of the gravest importance to sanitarians and physicians. It must be admitted, however, that these conditions, for a large portion of infantile humanity, must continue to exist, and consequently the problem presented to physicians is how to cure the disease in spite of unfavorable conditions when it has firmly established itself. The solution of this question often taxes the ingenuity of the medical attendant in vain.

How shall the conditions present best be met? To answer this query has inspired exhaustive contributions from the pens of our most learned writers. It is admitted by all that one of the causes which incites and perpetuates the gastric and intestinal inflammation is undigested, or partly digested, fermenting milk or other food, the decomposition of which is accompanied by the development of ptomaines and other toxic principles. It is as an aid to the removal of this cause, both in predigesting milk or other food before it is given, and in digesting fermented undigested food in the stomach that Pepsin is indicated in infantile diarrhœa, and its efficacy has been attested by many well known medical writers. See *J. Lewis Smith, M. D., Arc*[illegible]*s of Pediatrics, Sept.*, '86, *p.* 518; *Nov.*, '86, *p.* 639; *Nov*., 1864, *p.* 424. *Prof. Vocher, of Berlin Archiv. f. Kinderh, vol.* 9, *p.* 3. *Dr. I. N. Love, St. Louis Weekly Medical Review, Aug*., 88. *T. Lauder Brunton, Diseases of Digestion, p.* 291. *A. Holt, N. Y. Archiv. Pediatrics*, 1886, *p.* 732. *A. G. Bigelow, Archiv. Pediatrics*, 1884, *p.* 430. *Discussion at German Medical Congress, at Salzburg*, 1881, *by Demme, Biedert, Gerhardt, Henock, Steffen, Thomas, Soltman, Pfeiffer. Prof. Leeds, Archiv. Ped.*, 1864, *p.* 431, *etc.*

With the improvements that have of late been made in the purity, quality, and digestive efficacy of pepsin, this agent is likely to play a more important and definite part in the treatment of intestinal inflammations than ever before. Its ease of administration, its certainty of action when a proper product is administered, will, we believe, lead to its extensive use.

We say *proper product*, advisedly, for it is well known that many pepsin products are absolutely inert or of very low digestive power, or infested with chemical poisons (leucomaines and ptomaines—See Vaughan and Novy's Ptomaines and Leucomaines), the disagreeable odor they possess being significant of putrefaction.

It goes without saying that a product of the latter type would only augment the inflammation, and physicians should look well to the character of the pepsin used. It should, in the first place, be absolutely devoid of the odor characteristic of putrefying mucus, and in the second place, it should freely dissolve in water at all temperatures, for, as solubility is one of the distinguishing peculiarities of the unorganized ferments, it is the best evidence of purity in a pepsin.

We guarantee the purity, activity and solubility of our pepsin products. Our pepsin is absolutely free from odor, and has been shown by expert examination to be free from ptomaines and leucomaines, and demonstrated by an exhaustive comparative test to possess twice the digestive power of the most active hitherto introduced. (See Observations on Digestive Ferments, by R. H. Chittenden, Ph. D., *Phila. Medical News*, February 16, 1889.)

In raising the standard of digestive strength by our investigations, we have adopted 1 to 2,000, forty times that required by the last pharmacopœia, believing this strength would best meet practical requirements. We are, however, prepared to supply pepsins of almost any strength up to a product capable of dissolving 6,000 times its weight of albumin.

Since a 1 to 2,000 pepsin has been proven to be amply efficient and most convenient for making the officinal preparations, it is a question if a higher power pepsin, of which an inconveniently small dose would be required, would not unnecessarily embarrass dispensers without accomplishing practically any better results.

It is not probable that the pharmacopœa will ever adopt a standard for pepsin higher than that which we now observe, and it will only be by recognizing this authority that the term "pepsin" can ever come to mean a preparation of definite digestive strength. As it now is, unless some particular brand is specified, a pharmacist is justified in putting up the most worthless products on his prescriptions.

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NOTES.

"THE worst air for a patient is that which has given rise to the disease."—CELSUS.—*Dr. Hurd on Consumption as I have known it.*

ANTIFERRIN is soluble in spirits of nitrous ether, and will remain unchanged for a considerable length of time.—DR. HUMPHREYS *in Therapeutic Gazette for July.*

TO DETECT ANTIPYRIN.—(*Pharm. Jour.*) Put a few grains potassium nitrate in a test tube, add a little water and an excess of sulphuric acid, then fill the tube with suspected fluid. The reaction is green if antipyrin be present.—*Jour. Am. Med. Ass.*

ANTIPYRIN IN CHOREA AND TETANUS.—Dr. A. Garland, of New Zealand (*Brit. Med. Jour.*, July 6) gives some notes on a case of choreic convulsions, in which, after 21 days treatment, chloral with bromide potassium (in full doses) failed to produce sleep, he administered antipyrin in 10 gr. doses every 4 hours in the afternoon, and patient got a good sleep, and in 3 days was practically well. He also gave antipyrin in a case of tetanus, and although the patient died, the spasms were much relieved by the drug.

SALOL AS AN ANTISEPTIC.—Just as antipyrine, after its original application, was found to have numerous other equally effective uses, so it is now with salol, which seems therefore likely to command a more extensive patronage. One of these seems to be really important. The antiseptic properties of the compound have always been recognized, but salol had never been applied externally. Now, however, continuing the parallel with antipyrine—the most important property of which was discovered in a country other than that in which it was first used—salol has been proved to be a valuable antiseptic in France, Italy and Switzerland. It is specially recommended as a substitute for iodoform, in all cases in which the latter has been previously used, and, considering its freedom from objectionable odor, it is not astonishing that its application in this direction should find favor. Moreover, it is not toxic, which is more or less the case with iodoform. Another advantage is that it is about 20 per cent. cheaper than iodoform.—*Chem. and Drugg.*

Chloroform Deaths in Obstetric Practice.—Charpentie (*Bull. de la Soc. Obstet. de Paris*, No. 5, 1889) in a discussion on obstetrical anæsthesia before the Obstetrical Society of Paris, quotes the researches of Duterte, who collected forty cases of death attributed to chloroform. He eliminated thirteen of these in which another adequate cause of death was present. But very few of the remaining twenty-seven were free from pulmonary or cardiac disease, and chloroform had been given to the extent of complete or surgical anæsthesia in these cases; in quantities sufficient to produce obstetrical anæsthesia it is very rarely dangerous.—*American Journal of the Medical Sciences.*

What Does This Mean?--A Medical Journal Trust.—It is currently rumored that a combination of prominent proprietary and patent medicine houses has been formed to furnish capital to and control what is proposed to be substantially a "Medical Journal Trust." These rumors have grown from the announcement sent out a short time ago when several medical journals in Philadelphia were consolidated under the name of the *Times and Register*. It is said that this combination, which is known as the American Medical Press Association, proposes to gradually absorb all the medical journals of this country. The way this is to be accomplished is for the combination of manufacturers to withdraw their advertisements at the same time from one journal, and use every other means they can to cripple it, so that it can be bought in at a low rate. This plan is to be continued slowly and cautiously, so as to avoid publicity, until all of the journals are gradually taken in. Such a combination, if it should be completed and conducted in accordance with the peculiar honesty and principles that the *Times and Register* is now advocating, as will be noticed in an article in this issue headed "Justifying a Fraud," would certainly make a spectacle that would bring everlasting disgrace on the medical profession of this country and on all who have had anything to do with so unprincipled an undertaking. On any kind of a basis such a "medical journal trust" would give nostrum mongers a powerful weapon with which to humbug and deceive the medical profession; and its progress will most surely be opposed by all respectablr journals, physicians and druggists, and by the general public.—*Druggists Circular and Chemical Gazette.*

AUVARD has devised an instrument combining a cranioclast and cephalotribe.—*Am. Jour. Med. Sciences.*

IN the United States it may be assumed that 50,000 insane persons are in the State, corporate and municipal hospitals; that $60,000,000 have been expended on the plant necessary for their care; and that $10,000,000 are annually raised by taxation for their maintenance, exclusiee of the large amount expended in the construction of county asylums and for the yearly support of the insane in those institutions. The average life of an insane person is fifteen years, and his support will cost his friends or the State the sum of $3,750. The large amount of money raised by taxation for the maintenance of the insane, the proper disposition of those who become a public charge aod their varied relations to the State, are social problems involving large public and private interests. They have been the subject of discussion almost exclusively by the physicians and managers of hospitals for the insane, by the medical profession, and occasionally by committees of State Legislatures on the occasion of some special agitation for the creation of a new hospital.—*American Journal of the Medical Sciences.*

TREATMENT OF TABES BY SUSPENSION.—Bernhardt (*Deutsch. med. Wochenschr.*, 1889, No. 21) has, during the last quarter of a year, treated 19 patients, with about 220 suspensions. Most of these were tabetic patients, some of whom had received more than 20 suspensions, others between 15 and 20. By all, even the very ataxic, the treatment was well borne. Apart from the beneficial psychic effect on the patient of a new method of rreatment, there was an indubitable improvement in nearly every case. Some, it is true, stated rhat they felt no better, but in the majority Bernhardt recorded amelioration of the lancinating pains, increased ability to walk, diminution of the ataxia, incaeased vesical power, in some cases a decided influence on the lost sexual power, and in nearly all an improvement in the general condition. He warns, however, against viewing this plan of treatment as a panacea for such a chronic disease as tabes is, and says that it has not yet been used long enough to permit of a final judgment on its value. It is certain, however, that it is a valuable means, though not for the healing of tabes, yet for the amelioration of many of the most distressing symptoms of the disease.—*Amer. Jour. of the Medical Sciences.*

SILICO-FLUORIDE SODIUM.—Robson: *disinfectant:* as a wash, one grain to the ounce of water; known as salufer.

AN EXPERIMENTAL INVESTIGATION OF STRYCHNINE POISONING.—At the suggestion of Dr. Henry P. Bowditch, the work was undertaken by Dr. Robert W. Lovett (*Jour. of Phys.*, Nos. 3 and 3, 1888) to ascertain if the spinal cord showed any special facility in taking strpchnine from the circulation and storing it up in its tissues; or, in other words, to determine whether strychnine exercised its peculiar power upon the spinal cord because there was more of the drug present there than in the other organs, or because the cord was more perceptible to its action than muscle, brain, liver, etc. After a careful and minute investigation of the subject the problem is answered, in a general way, as follows: 1. The spinal cord has the power of selecting strychnine from the circulation and of storing it up in its structure, for at the occurrence of convulsions, or at a definite time after the injection of a certain amount of the drug, the cord is found to contain relatively more than the liver, the muscles, the brain or the ovary. That the fact is not due to the marked vascularity of the cord, is shown by taking into consideration the rich vascularity of the liver, which yet contains a smaller amount of the drug, as compared with that of the cord. 2. At the time of convulsions the relative amounts of strychnine in the blood and in the spinal cord vary with the amount of the drug administered. If it is a large dose, the blood contains overwhelmingly more; but if it is a small dose, a larger amount relatively is found in the cord than in the blood. The amount of the drug in the cord necessary to produce convulsions seems to be more or less constant, independently of the dose, the surplus of the same in the blood being, apparently, in proportion to the size of the dose administered. The author concludes that the spinal cord in cases of strychnine poisoning cartainly contains more strychnine than other organs; but whether or no it is more susceptible to the drug than other organs cannot be ascertained at present. It is added, also, that, in a medico-legal sense, the work is of importance as regards the storage power of the spinal cord for strychnine, and especially where the stomach contents cannot be relied upon in cases of poisoning by this drug; and in this respect it is an addition to the work of Dr, Chittenden on the "Significance of the Absorption and Elimination of Poisons in Medico-legal Cases."—*New York Medical Journal.*

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A PROFESSOR of the Cairo Medical School, while blowing into a vaccine tube, inoculated his lower lip, and developed a splendid vesicle, and yet in childhood he had gone through a severe attack of small pox.—*N. Y. Medical Abstract.*

MERCURIAL VAPOR IN CROUP.—(*Lancet*) Dr. Rothe, of Altenburg, relates (*Memorabilien*), two cases of apparently non-membranous croup in which, when the laryngeal stenosis became so great as to oblige him to propose tracheotomy, the inhalation of the vapor of calomel produced such a remarkable change for the better that he was able to dispense altogether with the operation. He rigged up a sort of tent over the child's head and vaporized thirty grains of calomel on a metal plate over a spirit lamp.

INGUINAL ECTOPIA.—M. Championière called the attention of his colleagues to the treatment of inguinal ectopia by fixing the testicle to the bottom of the scrotum by pressing on the little organ and forcing it out of the canal. His friend, M. Tuffier, cited several cases in which the treatment succeeded. The testicle was fixed by two or three sutures passed through the external covering of the glauk avoiding, as far as possible, wounding it. The result is always satisfactory. The speaker said that for sometime before the operation traction should be made daily on the testicle in order to facilitate its descent. M. Monod said that the fixing of the organ in the scrotum was rarely practised hitherto. The operation was recommended first by Cholins, by Koch, and more recently by Max Schuller in 1881. In order that the operation should succeed the testicle should not go up beyond the internal ring, and the boy should be from twelve to sixteen years of age, for after twenty success is very doubtful. In young children the affair should be simply watched, as migration of the organ is still possible. In the case of the ectopia being complicated by a hernia, the radical cure of the latter should be attempaed and the testicle fixed to the scrotum. M. Berger said that Prof. John Wood, of London, insists on the difficulty of operating when the cord is short. M. Berger said also that he had met with two cases where the testicles at birth were in their proper position in the scrotum, but subsequently one went up into the inguinal canal, and finally into the abdomen.—*M. Press.*

The Testicle as a Rejuvenator.—Twenty years ago, at least, Dr. Brown-Séquard exhibited tendencies towards a belief that the testicle might be of value for other purposes than the impregnation of the ovum. provided it was taken when young—that it was competent, when its vital principles were properly injected for the respective purposes, not only to call into existence the very young, but to rejuvenate the aged. It seems that this idea has continued to germinate in the brain of the learned, but eccentric, physiologist all these years. In 1875 he made experiments with grafts of testicular tissue upon dogs, and to his delight succeeded, as he thought, in renewing the youth of one wretched old cur. Since then he has continued these strange investigations at various times, and during the month of June. this year, made two separate communications to the Société de Biologie of Paris upon this subject, describing the methods used and the supposed results. He, apparently, thinks he has discovered a sort of *elixir vitæ*, or fountain of perpetual youth, of simpler composition than those elixirs so sedulously compounded by the mediæval philosophers, and easier of access than the elusive fountain which enticed poor Ponce de Leon to his fond and fatal journey. According to the reports of Brown-Séquard's communications given by the French journals, he has been experimenting with a fluid obtained by crushing and washing the testicles of young animals, which was mixed with blood from the spermatic veins and water. This fluid he injected into his own subcutaneous cellular tissue almost every day for two weeks, with results so gratifying that he hastened to communicate them to his biological confrères. Notwithstanding his ripe age, between seventy and eighty years, he experienced a rejuvenescence of all his forces, physical and mental. The former healthy and vigorous contractility of the intestines and bladder had returned, as also had his general muscular strength. Intellectual labor had again become easy to him. Dr. Brown-Séquard did not succeed apparently in inoculating his hearers with his own enthusiasm for his procedure. Scepticism and physiological objections found expression through MM. Dumont-Pallier and Féré. Nor did the Society treat his results with sufficient seriousness to discuss the question as to the value of the ovary for similar purposes, or as to the possible results of injecting subcutaneously an ovarian aqueous extract into the male and a testicular extract into the male.—*Boston Medical and Surgical Journal.*

Urotheobromin.—One of the alkaloids of urine.—*M. Press.*

Sugar in Urine—A Simple Test.—Dr. H. Hager, one of the most industrious practical pharmacists of the world at the present time, has suggested the following test in a recent issue of the *Pharm. Zeitung:* "Upon a strip of white filtering or blotting paper place a single drop of urine and carefully heat to dryness. If it contains no sugar the stain is hardly to be seen, or is very faintly yellow; if it contains albumen the stain is of a deeper yellow, and at times with a reddish tinge; if it contains sugar the spot will be of a yellow with a brownish cast, the shade of brown varying in intensity according to the sugar present, and under a magnifier by transmitted light the outer portion of the spot will have darker spots, while normal urine is more of a uniform color, The object of this test is to afford the physician a ready method of bedside determination of urine preliminary to more detailed methods. It can readily be done, using a kerosene lamp as the source of heat. The principal precaution is to avoid an excess of heat."

Honors to Dr. John S. Billings.—Dr. Billings, of the army, sailed for Europe on Wednesday, June 12th, in company with a number of physicians, some of whom are delegates to the Leeds meeting of the British Medical Association, to be held in August, It has been announced that Oxford University will confer on Major Billings an honarary doctorate in consideration of his many labors on behalf of the Johns Hopkins University, the Army Museum and the "Index-Catalogue." The general orders of the Surgeon General of May 13th, which contemplated the attendance of Dr. Billings, as the representative of the medical department of the army, at the American Medical Association's meeting at Newport, have probably been recalled to enable him to receive his new distinction in person. It is only a short time ago that the telegraph informed us of the bestowal upon Dr. Billings of an honorary doctorate of medicine by the University of Munich, conferred upon him in recognition of his work as a sanitarian. In the last issue of this journal we published the Surgeon General's authorization to Major Billings to participate actively in the work of the forthcoming Federal census. This assignment to special duty with the Census Bureau is without doubt a high honor, but it is also an onerons addition to a career that knows few idle hours.—*N. Y. Medical Journal.*

A CHEAP inhaler may be made by wrapping a piece of paper around a lead pencil.—*N. Y. Med. Abstract.*

ACCORDING to a writer in the *British Medical Journal,* tetanus in the horse can be cured by 20 grs. of antipyrin every fourth hour day and night for 48 hours.

PICHI (*Fabiana imbricata*).—Indigenous to Chili; used in catarrhal inflammation of the mucous membrane of the bladder and kidneys; dose, 15 drops of the fluid extract.—*N. Y. Med. Abstract.*

THYME.—Johnson: *whooping-cough:* one ounce of the common herb is boiled down from a pint and a half of water to a pint; if there is much inflammation of the bronchial tubes, two drachms of pot. iod. and pot. chlorate are added to each pint; dose, 1 or 2 teaspoonfuls every hour to infants.—*N. Y. Med. Abstract.*

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CONTENTS:

ORIGINAL COMMUNICATIONS:

Report of the Chairman of the Section on State Medicine—The need of a State Board of Charities in North Carolina. By Kemp P. Battle, Jr., Md. 81
A Plea for the Inebriate. By E. J. Kempf, M. D. 92

SELECTED PAPERS:

On the Influence of Permanganate of Potassium on Menstruation. By W. Stephenson, M. D. 102
The Early Diagnosis of Etra-Uterine Pregnancy. By J. C. Reeve, M. D. 108
Preservation of Urine for Microscopical Examination 116

EDITORIAL:

An Asylum for Inebriates 117
Rehabilitation of the Board of Charities and Correction 118
Who is to be Considered a Medical Practitioner According to the Law 121
We Second the Motion of Dr. Squibb 122
Hydrophobia from the Bite of a Cat 123
Lines of a Specialty Sharply Drawn 125

REVIEWS AND BOOK NOTICES:

Transactions of the Southern Surgical and Gynecological Association 126
A Laboratory Guide in Urinalysis and Toxicology. By R. A. Witthaus, A. M., M. D. 128
Styrone 128
Diasatirion 128

CURRENT LITERATURE:

Horse Nettle in Epilepsy. By J. L. Napier, M. M 129
Comparison of the Value of Paraldehyde and Sulphonal 131
Deathbed Confessions 132
Two Medical Portraits to be hung up in the Heart 133
Cerebro-Spinal Fluid of the Nature of a Secretion 135
Medico-Legal Detection of Human Blood 135
Kola Nut 136
Squibb's Ephemeris 137
Mithradatism 139

OBITUARY:

J. L. Cabell, A. M., M. D., LL.D 140
Sketch of Dr. J. W. S. Arnold. By Middleton Michel, M. D. 142

Citric Acid in Milk 144

NOTES 145-157
BOOKS AND PAMPHLETS 158-159
READING NOTICES 160

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ORIGINAL COMMUNICATIONS.

REPORT OF CHAIRMAN OF SECTION ON STATE MEDICINE—THE NEED OF A STATE BOARD OF CHARITIES IN NORTH CAROLINA.

By Kemp P. Battle, Jr., M.D., Raleigh, N. C.

(Read before the Medical Society of the State of North Carolina, at Elizabeth City, April 16, 1889.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

In considering the subject of State Medicine in North Carolina it seems to the writer that the State Board of Health, the benefits accomplished by it in the past, the work being done in the present and the objects being aimed at in the future, occupies the most important place in the sphere of work about which this Section should concern itself. But these topics are so well known, chiefly through the labors of the excellent and indefatigable Secretary of the Board that it appears better, in preparing a report for the Section, to select some special subject more or less connected with the Board, but about which less has been said. The attention of the Society is therefore respectfully called to the need in North Carolina of the services usually rendered in other States by State boards of charities and correction. Some of the duties that would devolve upon a properly constituted board of this kind are now undertaken by the Board of Health, but the machinery allowed it for these purposes are entirely inadequate, while for many other important and necessary duties there is no provision whatever, either in the Board of Health or anywhere else.

It is not generally known, certainly among the younger members of our profession, that the establishment of a Board of Charities is commanded by our State Constitution, that not many years ago such a board was provided for by the General Assembly, was in existence for a number of years, and that it languished and died. It may be of some interest to recall its career. In the Constitution adopted in 1868 the following will be found :

"ARTICLE XI., SEC. 7.—PROVISION FOR THE POOR AND ORPHANS.

"Beneficent provision for the poor, the unfortunate and orphan, being one of the first duties of a civilized and Christian State, the General Assembly shall, at its first session, appoint and define the duties of a Board of Public Charities, to whom shall be entrusted the supervision of all charitable and penal State institutions, and who shall annually report to the Governor upon their condition, with suggestions for their improvement."

Accordingly in the Public Laws of 1868–'69 appears the following law :

"AN ACT PROVIDING FOR A BOARD OF CHARITIES, AND PRESCRIBING THE DUTIES THEREOF.

"SECTION 1. *The General Assembly of North Carolina do enact,* That the General Assembly shall, immediately on the ratification of this act, proceed, by concurrent vote, to select five electors, who shall be styled the Board of Public Charities of the State of North

Carolina. One of the persons so selected shall hold office for one year, one for two years, one for three years, one for four years and one for five years; the term of office to begin the first of July, 1869. Appointments to fill vacancies in this Board, caused by resignation, by removal from the State, death, or from any other cause, may be made for the residue of such term by the Governor.

"SEC. 2. The Board of Public Charities shall hold regular meetings on the first Tuesday in January, April, July and October, and as often besides as they may deem needful. They shall make such rules and orders for the regulation of their own proceedings as they may deem proper; they shall investigate and supervise the whole system of the charitable and penal institutions of the State, and shall recommend such changes and additional provisions as they may deem needful for their economical and efficient administration, and no changes shall be made in the management of any of the institutions without the advice or consent of the Board. They shall receive no compensation for their services except their traveling expenses, which shall be allowed and paid.

"SEC. 3. The general condition of the State as affected by crimes, vagrancy and pauperism, shall also come under the view of the Board, and it shall be their duty to report to the General Assembly when, in their judgment, it may become needful for the erection of the several reformatory institutions whose organization is provided for in Article XI of the Constitution.*

"SEC. 4. The Board shall give special attention to the causes of insanity, defect or loss of the several senses, idiocy and the deformity and infirmity of physical organization. They shall, besides their own observation, avail themselves of correspondence and exchange of facts of the labors of others in these departments, and thus be able to afford the General Assembly data to guide them in future legislation for the amelioration of the condition of the people, as well as to contribute to enlighten public opinion and direct it to interests so vital to the prosperity of the State.

"SEC. 5. Personal visits may be required by the Board of one or more of its members, or otherwise, to make careful investigation into the condition of the several county jails and almshouses, and the treatment of their unfortunate inmates, and report on these points, so that the provisions of Secion 6,* Article XI of the Constitution may be enforced.

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*Houses of correction, of refuge, for orphans, deaf mutes, blind and insane, and "means of education" for idiots and inebriates.

"SEC. 6. Whenever the Board shall have reason to believe that any insane person, not incurable, is deprived of proper remedial treatment, and is confined in any almshouse or other place, whether such insane person is a public charge or otherwise, it shall be the duty of said Board to cause such insane person to be conveyed to the State Asylum. there to receive the best medical attention. So, also, it shall be their care that all the unfortunates shall participate in the charities of the State.

"SEC. 7. The Board may require the Superintendent, etc., of the several charitable and penal institutions of the State to report to them of any matter relating to their inmates, their manner of instruction and treatment, with structure of their buildings, and to furnish them any desired statistics at their command.

"SEC. 8. The Board of Public Charities shall annually prepare and submit to the General Assembly, a complete and full report of their doings during the preceding year, showing the actual condition of all the State institutions under their control, with such suggestions as they may deem necessary and pertinent, which they shall print.

"SEC. 9. This Board shall make a special report to the General Assembly of 1870, on the cause of crimes, pauperism, etc.

"SEC. 10. This act shall be in force from and after its ratification.

"Ratified the 10th day of April, A. D., 1869."

The following gentlemen were accordingly elected as members of the Board: G. W. Gahagan, Dr. G. W. Blacknall, Rev. G. Wm. Welker, Dr. Eugene Grissom and William Barrow. Their terms of office were designated by lot, and the names are given according to length of term from one year to five. At the first meeting Mr. Welker was chosen President and Mr. W. J. Palmer, the Superintendent of the Institution for the Deaf, Dumb and Blind, accepted the position of Secretary. Steps were afterwards taken through the

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*This section is as follows: "It shall be required, by competent legislation, that the structure and superintendence of penal institutions of the State, the county jails and city police prisons secure the health and comfort of the prisoners, and that male and female prisoners be never confined in the same room or cell."

Secretary to collect information in regard to poor houses and jails, and to learn the number of idiotic and insane persons in the State by means of circulars sent to every chairman of the Boards of County Commissioners. Dr. Blacknall was also appointed a special agent to make a personal inspection of as many of these institutions as practicable and report. As requested by the General Assembly, the obtaining of information in regard to suitable buildings for the insane in different parts of the State was provided for, and the Secretary was directed to address the annual convocations of the different religious bodies and urge upon the ministers the duty of visiting the criminals and paupers of their counties. This was the extent of the work undertaken that year by the Board, and the result appears in their First Annual Report, of 137 pages, dated February 10, 1870, and signed by three members: Mr. Welker, Dr. Grissom and Dr. Blacknall. There is first a more or less general but able discussion of the work of the penal and charitable institutions of the State, and then follows the report of the Secretary. This consists chiefly of compilations from the replies from the counties to the circulars above mentioned, and to these are added the special report of Dr. Blacknall and short statistical reports from the Penitentiary and the Insane Asylum. The replies to the circulars are presented under distinct heads: 1. A general report of the condition of the prisons and poor houses in the State. There were 19 questions in regard to the condition of the prison buildings, their management and the treatment of the prisoners, and 34 questions of a similar kind in regard to poor houses. Returns were receivsd from 80 counties and a full synopsis of the report of each is given—the whole filling 75 pages: 2. Tabular statements showing (1) the number, condition, etc., of the inmates of poor houses; (2) the number of prisoners confined in the county prisons; (3) the ages of prisoners; (4) the crimes and causes of confinement, and (5) the number of insane and idiotic persons in prisons, poor houses and private families in 43 counties.

The allowance of travelling expenses seems to have been construed as confined to those in connection with meetings of the Board, and only expenses reported for the first year are $21 for postage and printing, stationary having been furnished by the Secretary of State.

In March, 1870, the law establishing and defining the duties of the Board of Charities was supplemented by an act then ratified requiring county and township officers to furnish annually, on blanks furnished by the Board, information of the kind asked for in the circulars sent out the year before, and the penalty of a fine of one hundred dollars was provided for non-compliance.

The Second Annual Report was a special one of some pretension, on the causes of crime and pauperism, was presented late in the session of 1870 and 1871, received no attention from the Legislature, and is not found in the bound volumes of Legislative Documents.

The Third Annual Report is a short one, dated December, 1871. It states the inability of the Board to secure the gratuitous services of a competent Secretary since the resignation and removal from the State of their former efficient one, Mr. Palmer, asks an appropriation for the salary of a Secretary, and explains the impossibility of doing what was expected of them without money. The receipt of the reports from counties provided for by the act of March, 1870, is acknowledged, but the material was not utilized for the want of the services of a Secretary. The report is signed by Mr. Welker, Dr. Grissom, Dr. Blacknall and by Dr. C. T. Murphy, of Sampson county, a new member.

At the next session of the Legislature the original law was modified: The clause requiring "the advice or consent" of the Board previous to changes in management of charitable and penal institutions was stricken out, the traveling expenses of the members were allowed for one meeting annually and no more, and the printing of their reports was no longer allowed them. Among other results of these changes the blanks for county reports ceased to be sent out, and the excellent law requiring them became a dead letter.

The Fourth Annual Report was presented at the session of '72–'73, and was signed by Dr. C. T. Murphy, who had been elected President, Dr. Grissom and Dr. Blacknall. It calls attention to the fact that the General Asssmbly had persistently neglected the Board and its reports, that its action was crippled by the changes made in the original law, and that its request for a Secretary, an officer necessary for the accomplishment of its duties as required by law, had been refused. The body of the report is made up chiefly of general criticisms of the almshouses and jails based on a personal inspection of some of them by Dr. Murphy and of others by Dr. Blacknall, as before mentioned, an argument for the medico-legal supervision of prostitution, and a number of suggestions with reference to the

Board and the institutions under its supervision. It is stated, also, that Dr. Grissom declined a reëlection. A bill meeting the wishes of the Board was drawn and passed the Senate, but failed to pass the House for want of a suitable champion. At the session of 1874–'75 a joint committee on Public Charities was appointed, who seemed favorable to the views of the Board, but the chairman was called home for the rest of the session by sickness and nothing was done. The membership of the Board, however, was kept up, although little work was done for several years, the annual reports being short and of no special value.

After the Constitutional Convention of 1875 had met and had left untouched the provision for a Board of Charities, the members of the Board, headed by Dr. C. T. Murphy, made one more effort to put life into it by a vigorous appeal to the General Assembly, through Governor Vance, for $1,500 as salary of a Secretary. The other members at this time were Captain C. B. Denson, Dr. Blacknall, V. R. Sharp and J. T. Morehead, of Guilford. Governor Vance, when transmitting this report in his first Message, January, 1877, complimented the President, commended the purposes of the Board and recommended that its members be allowed reasonable salaries. A committee was appointed, a bill was introduced—and killed, and the Board of Charities was dead. At the same session, by an act ratified February 12, 1877, the foundations of the present State and County Boards of Health were laid.

The law creating the Board of Charities was in many respects an excellent one. The Board made a good beginning along some lines, and if it had been properly supported by the General Assembly it would have continued to exist and would have been productive of great good to the State. What were the causes of the legislative indifference which led to its failure it is needless now to discuss. It failed, and there is nothing which properly occupies the whole field of duty for which it was intended. Section 2 of the law provided for the investigation and supervision of the charitable and penal institutions of the State and for recommendations, when needful, looking to their economical and efficient management by a board established with these objects in view. There ought to be, now and all the time. a board of some kind charged with these duties, and its members ought to be altogether outside of, and independent of, the more direct management of these institutions. The reasons for this are the same as for the propriety, which is nowhere denied, of the appointment of legislative committees for similar purposes. But still stronger reasons can be given for the existence of such a Board. Legislators, many of them, enter upon these special duties totally unacquainted with that which they are to investigate, their visits are expected and prepared for, they see things when at their best only, and however competent they may be they have not the time to discover defects if any exist. Their work is, from the nature of the case, often perfunctory, and may be a complete farce—and now understand this better than the officers of the institutions visited. The members of a Board of Charities, however, being comparatively permanent officials, could make their visits at unexpected times and could take time to thoroughly familiarize themselves with the entire administration of the various institutions. From the point of view of the State, therefore, it is clear that the supervision of such a Board would be more likely to secure the best results than the present plan. From the standpoint of the officers it would be equally advantageous. The Board might be of assistance to superintendents by suggesting details in which improvement might be made and which had been overlooked. And thoroughly appreciating their necessities it could be of especial service to them in representing them before the General Assembly or its committees. According to the present plan it is necessary for a superintendent or warden to spend valuable time, which ought to be devoted to the institution which he controls, in disagreeable attendance upon the General Assembly at every session. The Board having many institutions in its field of view, and having both their interests and those of the State at heart, would be listened to with confidence by legislators who now are apt to look with disfavor upon the demands of the immediate officers, for the reason, apparently, that they suspect them of striving to secure as large appropriations as possible, regardless of the financial condition of the State or its people.

It is not meant that the Board should have too much power in this direction. To give it executive functions might introduce confusion and do more harm than good. It should be advisory in its scope and no more. Nor is it meant to be intimated that there is any special need at the present time of the supervision spoken of. The management of the Penitentiary and of the great charities of the State is believed to be good, and in some of them admirable, but all men who are human are liable to get into ruts, and any machinery ought to be welcomed by them which promises to help them to the attainment of excellence. As regards the present separate Boards of Trustees, they would be no more superseded than they now are by the system of direct legislative investigation.

Another field for the energies of a State Board of Charities is that of inspection of the county jails and almshouses and investigation of their management. It ought to be obligatory that every county should receive a visit at least once a year, at an unexpected time, from some member of the Board or from a special visiting agent. It is true that the Board of Health, through its reports of county superintendents, is working in this direction, and much good has been accomplished. The Secretary, in his second biennial report to the General Assembly, very properly expresses gratification at the improvement in many of the county public buildings and the condition of their inmates since the beginning of the publication of the *Bulletin*. It is believed that there is now no instance of such a deplorable state of affairs in a county jail, for example, among the counties reporting to the Board, be it noted, as the one so vividly described and vigorously commented upon in the Annual Message of the able President of the Society, read at the Charlotte meeting in 1887. But much more might be done even in the reporting counties. The county superintendents are believed to be, as a rule, conscientious and faithful officers, but the scope of their reports is practically confined, as contemplated by the present law, to sanitation alone, and there are many and important details in connection with these institutions. with which they have nothing to do, and which also need the light of publicity. In many counties they will agree that even in sanitary matters any assistance that they could get in their efforts at securing improvement in the condition and surroundings of the unfortunates with whom they have to do would be welcome. What is needed is that the present system should be supplemented by the investigations and reports of a visiting officer acting under a State appointment, and so entirely independent of county authorities, who should be empowered and required to examine, not only the sanitary condition of the jails and poor houses, but their management in detail, and report thereupon. The suggestions of such an officer would be of great value to those county authorities who are anxious, as most of them are, to do the best they can towards their paupers and criminals in proportion to the financial ability of the county. His wise experience gained in comparing the methods pursued in different localities would be drawn upon in such consultations and would be recorded year by year in reports, and so would be the cause, in many cases, of improvements by which the best results could be attained in the most economical way. On the other hand, those County Commissioners and others who are disposed to neglect their proper duties in this respect might be reached by the publication of their shortcomings in the reports and by the consequent pressure of public opinion. Abuses cannot thrive before the eyes of the whole people.

What has been said has regard even to those counties whose superintendents of health, as official sanitary inspectors of the jails and poor houses, report to the State Board of Health, and it applies with peculiar force to those from which no reports of any kind are received. Only 58 counties out of 96 have thus far organized boards of health and elected superintendents. In the remaining 38 nothing is publicly known of the condition of the jails and poor houses or of the treatment of the inmates. In some of them the state of affairs may be no worse than in the 58. In the absence of information we can only say that we do not know. In many of them, however, we do know that there is gross neglect. Two instances may be mentioned as showing what is possible under the existing system. They are given on the best authority and may be accepted without reserve. In one county a lunatic was confined in a small cell for months with a lack of attention that would have been disgraceful in the case of a hog in a pen. This human being was allowed to become plastered over from head to foot with his own excrement, and a more loathsome, miserable creature it is not possible to imagine. And this was not one hundred years ago, nor fifty years ago, but one.

The second case was almost as recent and also a lunatic. A man whose misfortune it was to have lost his reason and to have fallen into the hands of the authorities of another of the counties of our civilized State in this closing part of the nineteenth century of christendom, was confined for more than two years in a box-like structure, so small that the sitting posture was the only one permitted. In all that time he could neither stand nor lie, for he never once left his box. In God's mercy he at last reached one of our asylums, but as a cramped skeleton—a wreck pitiful to see. His joints had become fixed from want of use, and he might as well have been still in his living grave. It is a pleasure to state, however, that the anchylosis proved to be fibrous, and that with careful attention and the lapse of time, though his mind is still diseased, his legs have again become useful to him, and he is, comparatively speaking, in ruddy health.

Let us suppose, in the name of humanity, that such cases as these are the result of ignorance, but whether of ignorance or of barbarous indifference, in the name of God they should be impossible.

The essential point is that State supervision over the local authorities, advisory in character, it may be, but supervision of some sort is a necessity. It is incredible that such abuses as those cited could exist under such a system of inspection as the one under review.

There are many other directions in which the work of a State Board of Charities is greatly needed, for example, the study of the question of what can be and ought to be done for our idiots, a class sadly in need of attention and wholly neglected by the State. But time will not permit a more thorough discussion of the subject, and I will not longer abuse your patience.

When we come to consider how far a practicable scheme can be embodied in legislation many difficulties arise. A Board of Charities, pure and simple, commanded by the Constitution, though it be, has been tried and failed. The time was not ripe for it. It would seem that the most feasible plan would be the one suggested some years ago by Dr. Thomas F. Wood, of vesting the duties of the Board of Health and the Board of Charities in a single board, but the details would have to be worked out with care and with the contributions of many minds,

A PLEA FOR THE INEBRIATE.

By E. J. Kempf, M.D., Jasper, Indiana,

I.

THE INEBRIATE.

No License or Free Whiskey and Prohibition amount to the same thing.

Free Whiskey allows every one, who feels so inclined, to drink as much alcoholic liquor as he wishes. Those who know that alcohol is a poison, and must be used moderately, will refrain from using it to excess.

Prohibition demands that no one use a drop of intoxicating liquor. Those who can control themselves do not need prohibition to protect them. Those who wish to drink will do so in a secret manner, violating the law every time they do so. The reason of this is, you cannot legislate the people to become temperate. They must be educated to know that alcohol is an injurious poison. They can be educated to become temperate by means of the press, the pulpit, the lecture, the school and wise laws to regulate the liquor traffic.

At the present time, and under the existing circumstances, the free-whiskeyites and the prohibitionists should compromise the matter by adopting High License. High License will help pay the expenses to keep the liquor traffic within proper bounds.

Laws can be passed to make the saloon-keeper close his saloon on Sundays, legal holidays, and at an early hour at night. The card-table, the dice-box, and other devices to make men play for drinks, should be banished from the saloon by stringent laws. No tables or chairs or benches should be allowed in a saloon or in an adjoining room.

If this is done people will comprehend that every one concedes them the right to make use of their liberty, but that they must not abuse it.

Laws can be passed to fine the drunken man and to prevent the saloonist from selling alcoholic liquor to the habitual drunkard.

The writer knows that prohibition, if it could be adopted, and if all people were to obey its demands, would be the right thing. But we must take things as they are, and not as they ought to be. And it is certain that prohibition is a failure at the present time.

The writer will assume that he is in the right on the grounds that science concedes that whiskey, beer and wine, if used properly, is beneficial. I cannot define "proper use." It may mean daily use for one person, suffering from disease or convalescent from a sickness, or weakened by age, whilst it may mean "refrain from using it at all until you need it," for a great many other persons. It may mean drink to-day a glass or two at a banquet, a wedding or a public dinner, and abstain at all other times.

Were alcohol used properly by all, no one but a crank would say or write a word against it. But there is the rule. It is not used properly by a great many persons, simply because they cannot govern themselves. These persons are called habitual drunkards or inebriates, and it is in their behalf that I write this brief article, discussing what can and should be done for them.

My native village contains a great many saloons, and everybody drinks. The majority of the people are temperate, and a great many of them would vote for prohibition if they thought it could be enforced. Of the minority, a great many drink more than they should, because they drink habitually. A few drink to excess, and are habitual drunkards. I met one of these sometime ago, and he asked me to loan him a quarter. The man, still a young man, was a perfect sot. He had once been something else. His clothes were ragged and torn, his face was unwashed, his hair was unkempt, his eyes were watery and lusterless, his hands trembled, his legs seemed shaky and his bloated face had a hungry, anxious look. I gave him the quarter without a word. Noticing that he entered a saloon, I followed him through a side-door, and hid myself so that I could see him without being seen.

He walked up to the counter and asked for whiskey, tossing the quarter on the counter at the same time. This meant that he knew his credit, like his character, was gone. The bar-keeper handed him a bottle and a whiskey-glass. The inebriate poured the glass full to the brim with unsteady hand, and then poured the fiery liquid down his throat.

The fellow's tongue seemed to have been loosened by some invisible power, and, throwing his head back and straightening up, he commenced to make a speech, as he called it: "I love but one thing on earth, and that is alcohol. Alcohol is my God. The slave can run away from his master, the prisoner can escape from his keeper, the murderer can cheat the gallows, but for me there is no escape. King Alcohol needs no trained bloodhounds to keep me from running away from him. I belong to my King, body and soul. The aim of my life is how to obtain liquor. I beg it from the people, borrow it from my comrades, steal it from the saloon-keeper and drain it from the beer-kegs on the curb. I cannot resist the desire to become intoxicated. I care not for the liquor itself, but for its effect I crave. I am an inebriate. I became a drunkard not through choice, but simply because I could not help it. I am the victim of an insane propensity. In other words, I am an irresponsible criminal. Society and custom is responsible for my dreadful condition. Reputable men sold me alcohol, and the State has given me the right to make a drunkard of myself, because my personal liberty entitled me to be that. The drinking habit has grown on me until I and the habit are one. I have sworn off a thousand times, only to fall again. I have signed pledges innumerable, only to break them again. I made resolution never to touch another drop, but at the first temptation I went down like corn before a storm. I have gone home late at night gnashing my teeth together in rage at so easily yielding to the tempter. I have grovelled on the floor of the room at night and begged the good God to help me or to let me die. I was too much of a coward to commit suicide, and my wife and children stood before me as a threatening ghost to live and reform—but I could not. With tears in my eyes I have promised my wife to do better and sealed the promise with a kiss on her untainted lips, but, like a miserable cur, I forgot my promise the first time I met a friend who insisted that I could drink moderately if I wished. I have been arrested, fined and imprisoned for being drunk, but it did me no good, and only made me desperate. I became worse because no one seemed to help me in the right way. And now I have gone to the dogs. My wife has cast me off, my children will have nothing to do with me, my former friends know me no more, and there is but one hope left for me, and that is to die. Good-bye, gentlemen."

That night this inebriate was found hanging to a rope in an outhouse. His soul had gone to his God. He certainly met with more mercy there than his fellow-men, in their ignorance of his true condition, dealt out to him.

This man was sick. His disease is called abulia, or degenerated will-power. The will is a determining force, the complex result of inherited peculiarities and acquired experiences. The will has no special centre, its activity depends upon that of the whole brain. Anything that impairs the activity of any part of the brain enfeebles the will. Naturally abulia occurs in persons whose nervous system has degenerated. Predisposing causes are inherited from a dissipated parent or from a degenerated family. The causes that excite the enfeebled will-power are sexual excess, emotional strain and drugs habitually used to excess. Alcohol is the principal drug thus used, because it is easily gotten, and also because the State and popular custom sanction its use. It is safe to say, then, that abulia is a mental deterioration, showing itself in an enfeebled will-power caused by the excesses. It is destructive in its results not only to the sufferer, but also to his offspring.

There is another type of inebriety which goes under the type of ebriosity, and by which is understood the condition of continual half-way intoxication. This, necessarily, occurs only among saloon-keepers and those engaged in the manufacture or sale of alcoholic liquor, having access at all times to alcoholic drinks. Beer-wagon-drivers are a type of this condition, a great many being able to drink a hundred or more glasses of beer a day and still tend to their work. This is a very destructive form of drunkenness and may be called incurable. It is a condition most pitiable.

Dipsomania is that form of the drinking habit which manifests itself in periodical drinking to the verge of madness. It is a mental alienation due to a morbid condition of the nervous structures, generally hereditary. It may commence suddenly as a consequence of some severe shock to the brain. The disease may also have its origin in the social habits of the patients, who from a simple convivial drunkard may become transformed into a regular inebriate. There must, however, be a predisposition to inebriety in order to effect its evolution. Healthy men without neurotic predispositions may drink voluntarily in moderation without thus breaking down, but let them remember that they are laying the corner-stone of a dipsomania in the person of a future son or daughter.

Dipsomania is a disease of the cerebral nervous centres analogous to recurring neuroses, such as epilepsy, etc. It is an attack of uncontrollable drunkenness, always kept up until the stomach refuses longer to tolerate the alcoholic drinks. Then the attack stops as suddenly as it came, and the sufferer recovers his usual health and spirits and enters into his business in a way as if nothing had happened. As a general thing these attacks recur at intervals of from one to six months, and the end is—a suicide, a maniac or a death from a renal, a gastric or a hepatic disease. Such people are the despair of their friends, the torment or ruin of their families and the scandal of their community. Seventy times seven they fall and are lovingly raised up. They express contrition, they make firm promises of amendment, but you can rely on but one thing, and that is, when the time comes the patient will become drunk, and drunk unto madness.

These are the three types of inebriety. I deal not with theories, but with facts. I do not present a temperance sermon. I leave that to those who make a specialty of soul-doctoring. My business is with the inebriate, and my address is to intelligent men who are ever willing to listen to the truth if any good may come therefrom.

The laws of the State and the customs of Society permit the drunkard to be mad; and these laws and these customs concede the right to become a drunkard to every citizen, because the State says that personal liberty should not be interfered with. On the other hand, the laws of the State direct that the drunkard be fined and imprisoned for being what his personal liberty entitles him to be. It is, therefore, logical to say that, according to the laws of the State, a man has a perfect right to become a drunkard, but that after he is a drunkard he has no right at all to be one.

Man is by nature very inhuman to man. He forces his brother into slavery, he murders him on the battlefield, he seduces his innocent sister and forces her into the brothel, he keeps his brother down by preventing his becoming educated to know how to improve his lot and his health, and, above all, he sells his brother alcohol, which is the most terrible poison in its effects on earth, and he tells his brother lies—that whiskey is good for him, and that his personal liberty entitles him to use it.

Is this right?

Science, which recognizes no laws built on prejudices and mistaken ideas, and which treats all customs and usages with utter contempt, claims that no man has a right to become a drunkard; that it has demonstrated that inebriety is a disease and a grave one at that; that the inebriate does not exercise his free-will to remain or to be a drunkard, for the simple reason that he no longer has a free will to exercise, but that the drunkard is the involuntary slave of an uncontrollable desire.

Science further claims that the drunkard may have never exercised his free will in matter. He may not be a drunkard from choice, but he may have inherited a predisposition to become a drunkard, and a necessity, opportunity and circumstances may have made him what he is—an habitual drunkard.

The State considers "becoming a drunkard" a personal right, and "being a drunkard a crime."

Science holds "becoming a drunkard" to be a sin, and "being a drunkard" a disease. To science there is no such thing as crime. Every so-called crime is the deed of a diseased mind or of a diseased body.

Habitual drunkenness, or inebriety, is, therefore, a disease brought on by the excessive use of alcoholic drinks, though this use may or may not have been continual, and the victim is an involuntary slave of an insane propensity. He knows what is right, but cannot choose it; and he knows what is wrong, but cannot shun it. There is no loss of the power to judge of right and wrong, nor any disturbances as to facts, except in the latter stages, but the mind is powerless to control conduct according to knowledge. This state which the drunkard is in may be called criminal irresponsibility.

II.

WHAT CAN THE INEBRIATE DO FOR HIMSELF?

As to chronic cases of drunkenness, a reformation under the existing circumstances is improbable and very nearly impossible. The temptations are too great and the opportunities are too many, and though the drunkard may have a desire to reform or to cure himself, his will-power is enfeebled and he cannot resist the demands of his habit unless he be removed from temptation and it be made absolutely impossible for him to get a drink. The drunkard is an object of contempt and disgust, as a drunkard, and an object of pity and danger as a man, as a father, as a son, as a brother and as a friend. He is pitied by all good men, but they are powerless to help him. He cannot help himself. He cannot reform whilst he is in the midst of temptation. The licensed liquor house or the unlicensed dens are easy of access, and indiscreet friends are not wanting to tempt him to go into such places and to take but one drink, which is the spark that lights the fire that nothing can quench.

Dr. Kerr says: "The struggle of the intemperate for freedom is a combat more terrible than any other fight on earth." It is a hopeless fight if unassisted by good men.

Dr. Parrish says: "The temptation with which they are tempted is within. It circles in the stream that gives them life. It burns in every nerve, and quivers in every muscle, and throbs in every fibre."

Dr. O'Dea says: "The drunkard says, 'I can no longer resist temptation. If a bottle of brandy stood at one hand and the pit of hell at the other, and I were convinced that I would be pushed in as soon as I took a glass, I could not refrain.'" This is the language of despair, uttered by a man who has struggled until he discovered that he was fighting an utterly hopeless fight.

The drunkard, therefore, can do nothing for himself.

Dr. Davis says: "All experience has shown that little progress or none can be made toward the permanent recovery of a dipsomaniac so long as his business places him in more or less contact with alcoholic drinks, or in frequent association with drinking comrades."

Dr. Lyman says: "For the permanent cure of inebriety nothing avails but special treatment in hospitals provided for this class of patients."

Dr. Carpenter says: "However responsible he may have been for bringing the disease on himself, his responsibility ceases as soon as he comes under the influence of the malady. I can see no distinction between this form of disease and any other which has been induced by the habits or acts of the individual. The only chance of a cure or alleviation is from attention to the health and abstinence from intoxicating liquors. Neither can he be cured so long as the patient is at large, and no amendment can be depended on unless he has undergone a long course of discipline and probation. Considering, then, that the patient is irresponsible and dangerous to himself and others, and that his disease can be treated only in an asylum, it is not only merciful to him and to his relatives, but necessary for the security of the public, that he be deprived of the liberty which he abuses and perverts, and that he should be prevented from committing crimes instead of being punished after he has perpetrated them."

Dr. Davis says: "Enforced seclusion in a proper asylum, with no possibility of obtaining any kind of alcoholic liquor, but where good air, good food, kind treatment and some suitable employment can be furnished on the same principle that applies to the treatment of insane persons will save them from early destruction."

Another authority ("International Cyclopedia") says: "It is undoubtedly the duty of a good and wise government to provide for such cases, when it is so well known that the consequences of unrestrained action may be so serious to the individual chiefly concerned; when families are so often thereby plunged into deep distress or absolute ruin; and when the amenity of society is so frequently outraged by a disflagrant crime. It is certainly an overstrained delicacy in a Legislature to shirk interference with a class of cases which lead to so much private misery and public expenditure, as the records of our courts of law, prisons, poor houses and lunatic asylums can amply attest. But considering the case of the dipsomaniac from another point of view, a facility by law to control, would confer on himself an unspeakable benefit. It would thus afford him his only chance of cure and of restoration to society, instead of permitting him to go on to wreck and ruin. Indeed, the neglect of law to provide such a check and remedy seems inconsistent, unjust and inhuman, when we consider that, while it permits the insensate drunkard to endanger his life, to waste his property and deprive his family of that which they are justly entitled to expect at his hands during life, it holds him responsible for any criminal act he may commit."

Tell me, now, is not the condition of the drunkard a deplorable one? In fact, is it not a blot on civilization? And would you say nothing should be done for the unfortunate inebriate, who has no chance whatever to reform under the existing circumstances? Will you not admit that something should be done to prevent the increase of drunkenness by wise laws to regulate the sale of alcoholic beverages, and that something must be done to diminish what there is of drunkenness, by taking care of the inebriates in a proper manner, so that they can become cured of their malady, and their friends be partly relieved of the burden of coming into daily contact with the habitual drunkard?

These are questions that can have but one answer. Yes, society should be protected against the drunkard, who is made by consent of the State in accord with public opinion And the drunkard should be protected against himself and against those who are licensed to sell him the wherewithal to remain a drunkard.

III.

SHOULD THE STATE TAKE CARE OF THE INEBRIATES?

The State should provide an Asylum for the treatment of its inebriates. Without such an institution the victim of inebriety must find a drunkard's grave in order to find relief. With this institution hundreds can be saved and returned to their friends as useful citizens, whereas, under the existing circumstances, they crowd our insane asylums, inundate our courts, fill our prisons and perish in our streets.

The only way in which the State, under the existing circumstances, can provide a protection for the drunkard, so that he may be cured of his malady, is by erecting and maintaining homes for inebriates.

The money derived from the licenses issued and from the fines collected from those who transgress the laws in regard to the sale and use of alcoholic beverages, should be used for erecting a home for inebriates.

The pauper inebriate should receive treatment free, and the inebriate who has property should be made to pay a reasonable recompense for the good he receives.

The homes, after they were once in good working order, could be made self-sustaining under efficient management. Indeed, the inmates should be employed in labor in order to learn discipline and to improve their bodily health. They should also be afforded recreation and amusement to prevent discontentment with the situation in which they are placed, and to convince them that there are other ways of enjoying life besides sitting in a saloon and becoming drunk.

These houses should be erected in the country, away from temptation. Proper rules and regulations should govern the inmates as well as those in attendance. The Superintendent, of course, should be a medical man, appointed solely on account of his qualifications and administrative ability, regardless of politics. A Board of Trustees should have control of the institution. One of these should be the President of the Board of Health. The salaries, of course, of these officers should be sufficient to enable them to turn their entire attention to the good of the institution.

The sending of confirmed drunkards, alcoholic inebriates, *morphine inebriates*, etc., to these homes should be made compulsory by proper laws. Their personal property and estates, if they have any, should be put into the hands of a guardian, who must give bond. The inebriate should pay a proper fee for the treatment he receives, if he is able to do so.

Voluntary entering into the homes by confirmed inebriates should be encouraged, but only allowed after a proper examination by two physicians, who should certify as to the condition of the patient. A complete history of the case would also help the medical attendant in treating the patient.

The fee exacted from the inebriate, if he is able to pay any, should be fixed upon in each instance by the Board of Trustees, who should have rules to go by based upon experiences of similar institutions.

The friends should not be allowed any control over the patient after he becomes an inmate of the home to which, according to circumstances, he is assigned. The inebriate must remain at the home at least a year, when the medical superintendent, under the advisement of the Board of Trustees, may let out the patient on parole, until he has proven himself able to govern himself.

The drunkard who is out on trial should be considered as belonging to the institution until he has kept sober for the time of one year. Should he show signs of the return of his malady before the year is up, he should immediately be brought back to the home for further treatment. It is presumed that the person who can keep sober one year is no longer to be considered an habitual drunkard.

I have made this plea in behalf of the unfortunate inebriate, not with the view of gaining a little cheap notoriety, but because I realize the terrible condition he is in and the hopelessness of his case unless he receives proper treatment in an institution designed for the treatment of inebriates. He can be saved in no other way.

Temperance revivals, etc., are good in their way, but they cannot help the drunkard. Religion cannot save a man whose mind is so far degenerated that he cannot control his actions or his appetite.

I have pointed out the proper way to take hold of inebriism; it is not original with me, but is based on the labor and studies of abler men, such as Drs. Benjamin Rush, J. E. Turner, Norman Kerr, Joseph Parrish, T. D. Crothers, N. S. Davis, T. Wright, and many others.

SELECTED PAPERS.

ON THE INFLUENCE OF PERMANGANATE OF POTASSIUM ON MENSTRUATION.

By W. Stephenson, M.D., Professor of Midwifery in the University of Aberdeen.

In a paper on the Treatment of Amenorrhœa by Manganese, published in 1883, Drs. Ringer and Murrell drew attention to what promised to be a rich vein of ore, well worthy of the attention of specialists. Since that time, however, the work remains pretty much as they left it. A few cases have now and again been recorded confirmatory of the opinions advanced, but contrary views have also been expressed, notably by Dr. Braithwaite, of Leeds. He says he "has given the remedy in not less than forty suitable cases. Any benefit from its use was very seldom met with." My own first impressions, formed from casual observations, were likewise unfavorable. This led me to investigate the subject systematically, with the view of ascertaining the truth. The result has been to show that Drs. Ringer and Murrell have but broken the surface ground, and that this is not a bogus remedy floated on a too credulous public.

The present investigation has extended over a period of three years. The cases have all been under my personal care, and the large majority of them have been seen in the consulting-room; in all, notes were taken at each visit. As is the usual experience, many of the cases in which the remedy was prescribed have been found imperfect, but I have been able to collect 105 cases in which reliable results were obtained.

In the present series the permanganate of potassium alone has been used. It was prescribed in the form of pill, containing 2 grs. of the salt with sufficient kaolin ointment; one pill three times a day after meals; in a few cases 12 grs. a day were taken. Many of the patients continued to take the pills regularly for two and three months. In only three cases did they complain of any pain after the medicine, and in these reducing the number of pills per day or the dose in each case was sufficient. My experience, therefore, is different from that of Dr. Döering, of America, who found that "the adminstration of the drug in doses large enough to be effective is accompanied by severe pain, which frequently necessitates a discontinuance of the remedy, and hence impairs its value as an emmenagogue." This result is explained by the mode of administration. He recommends it to be given in "capsules, taken midway between meals, and followed by large draughts of some pure mineral water." The drug is thus thrown rapidly in solution on the stomach, whereas the pills undergo very slow disintegration.

Amenorrhœa is the test which has mainly been used for the action of the permanganate, and, therefore, naturally leads to a condition which tends to right itself. Unfortunately, it is deceptive. The greater part of the evidence adduced is, nevertheless, composed of such cases. The authors of the paper first referred to state: "Our most striking results have been obtained in young women between the ages of 18 and 25, who from some accidental or trivial cause, such as catching cold or getting wet, have missed once or twice after having been regular."

Evidence of this character must be accepted with caution; and did the belief in the action of the permanganate rest on such alone, it would require a very large number of successive cases (not cases taken here and there) to eliminate the uncertainty that is inseparable from the affection. Two of my cases were instructive in this respect, for they both menstruated before they had taken the pills.

In so-called emmenagogue remedies I have no belief, and that such is not the action of permanganate of potassium is evident, for I have found it as serviceable in restraining the menstrual flow when in excess as in promoting its recurrence when suppressed.

Of the beneficial effect of the drug in amenorrhœa I have no doubt, but this opinion is not based on the result of the treatment of such cases alone. Corroborative tests can be used. First, where menstruation has not been suppressed, but the intervals between the periods have been irregular, does the permanganate promote irregularity? Secondly, where the periods have been regular, but the quantity has been scanty, does the permanganate increase the amount of the discharge? And, thirdly, has the remedy any influence in modifying the amount of suffering experienced at the periods?

An analysis of the 105 cases gives the following results on these points: Of amenorrhœa, where menstruation had previously been fully established, there are 22 cases. Of these the flow was reëstablished in 12 cases, and no such effect in 8; in 2 the remedy acted well at first, but on a subsequent amenorrhœa it failed. Of primitive amenorrhœa, or where menstruation had been imperfectly established, there are 10 cases; in 6 good results were obtained, and in 4 none. In 7 cases the interval was too long, but otherwise menstruation was natural; in 5 of these there was marked improvement, in 2 the character remained the same. In 21 cases menstruation was scanty in amount, and two long between the periods; in 11 there were good results, in 10 no improvement. In 18 cases there was very marked improvement in the amount of pelvic pains, and frequently the patients stated that they felt much stronger during the periods, and were not "so pulled down."

In estimating the value of these general results it must be remembered that in the inquiry the permanganate of potassium was prescribed indiscriminately, with the view of testing its action; the failures are, therefore, more numerous than they otherwise would have been had cases deemed most suitable been selected. Thus a number of them were cases of chlorosis, where iron should first have been employed or given in conjunction with the manganese.

Together with the above tests, there is another which should be taken along with them, that is the marked action of the remedy in checking leucorrhœa. This effect I observed early in the investigation, and I find Dr. Ringer also mentions it. The action is very reliable, and generally immediate, but in some cases it is obtained only after the first menstrual period; in two cases only there was no improvement in the leucorrhœa, and as both were unmarried no examination was made.

Whilst treating a case of long-standing amenorrhœa, I found that without menstruation being restored, she had been relieved of severe headaches from which she had suffered for four years. This directed my attention to the subject of menstrual headaches. Since that time I find amongst my notes 29 cases in which headaches were a a prominent symptom; in only 4 of these was no relief obtained.

There is one striking case where the patient, aged 35, had suffered from headaches all her menstrual life. They occurred on the first, and occasionally the last, day of each period, but for three years they have returned every fortnight, at the mid-period. Since taking the permanganate (now nine months) she has not had a headache.

The headache of the menstrual period was not always removed, but generally greatly moderated. The best results were obtained in cases where the headaches had begun to return in the intervals, once a fortnight, then weekly, and, at times, two or three times a week.

In a similar manner I was gradually led to the fact that the permanganate has a marked influence in relieving ovarian pain. Amongst the notes there are 22 cases in which the ovarian spot pain was a special symptom. They were all more or less relieved, some in a very marked manner. I now prescribe the remedy in all cases of functional ovarian pain with as much confidence as I do in leucorrhœa. The relief is not always complete or permanent, but there is ample proof that the drug exerts a beneficial influence over this very intractable symptom.

As the subject thus became widened, another point demanded attention. Has the permanganate any influence over menstruation when it is in excess either in time or in quantity? I have notes of 27 cases where this condition was present, and in 2 only was there no improvement. The beneficial effect in this respect is even more marked and reliable than in the opposite condition of suppressed or scanty menstruation. There is here less likelihood of wrongly attributing the improvement to the medicines, and some of the cases leave no room to doubt the action of the remedy. Thus one patient, aged 44, had for nine months menstruated every fortnight, and any excitement would bring it on. For the first four days of a period the discharge was very free, and thereafter moderate for other six days, making ten in all. The first menstrual period came on a week after beginning the medicine, with but little improvement; the second menstruation, at twenty-eight days' interval, quantity less, but still free, lasted five days, instead of ten; third menstruation, twenty-six days' interval, lasted six days, "not so pulled down," general health improved; fourth menstruation, twenty-eight days; fifth menstruation, twenty-four days, quantity normal. The effect is thus observable both as to time and quantity.

Each of the above points merits and would require a separate paper for its consideration. Time at our disposal permits general statements of results only. It is, however, evident that in the permanganate of potassium we have a remedy which has a considerable influence upon the function of menstruation when that function is deranged. In the matter of time, it tends to promote the normal periodicity both when the periods are too long and when too soon. It aids in restoring the menstrual flow when suppressed, to increase it when scanty, and to moderate it when in excess. It relieves much of the menstrual suffering, has a direct influence on some forms of ovarian pain and the headaches of menstrual origin. It has a remarkable influence in checking leucorrhœa.

The questions natural arise, then, how does the permanganate act, and what are the cases suitable for its administration? It might be argued that manganese has, as its emmenagogue action implies, a direct influence on the generative organs, as ergot has on the uterus, and digitalis on the heart; but the evidence at our disposal does not warrant any such conclusion. As yet the action of the drug has been studied only in relation to disease, and we have no evidence to prove its physiological effect in health. A study of the cases seems to point to the view that its beneficial action is due to its correcting the *constitutional* states which give rise to menstrual derangements, rather than to any specific effect on the uterine structures. It might equally well be stated that lime juice has a direct action on the gums because it removes the scorbutic lesions of these parts.

The action of manganese has generally been supposed to be similar to that of iron, and accordingly at one time it was given in chlorosis and anæmia, but "failed to be of service." It does not act on the blood, its action is totally different from iron, but yet I have found it of decided use in chlorosis for its effect on menstruation, and of late I have added the carbonate of manganese to Bland's pill.

The study of my cases, from a constitutional point of view, apart from its action on menstruation, tends to indicate that manganese acts on the vasomotor system, improving and giving tone to the circulation. This is well seen in a constitutional state met with in young girls. They are not anæmic, rather the reverse, full blooded, with languid circulation; the chief characteristic is that the face and extremities are hoven, with a tendency to blueness; there is a great loss of energy and a disposition to drowsiness in the daytime. Under the permanganate this constitutional state steadily improves. At first there may be a loss of weight, the color becomes clearer, the fulness of the tissues subsides, and the energy returns. The loss of weight I have several times observed in patients taking the permanganate is not due, in my opinion, to increased combustion of the tissues, but to the diminution of the watery elements of the blood and tissues. The condition is not œdema, but a vascular fulness.

Much of the relief to menstrual suffering afforded by the permanganate is doubtless due to the improvement in vascular action. Several of the cases, which time will not permit to quote, clearly indicate that some forms of menstrual pain are caused by vascular distention and increased venous blood-pressure. It is in these cases the remedy may be relied upon to afford relief, and so improve the system that the suffering does not return at subsequent periods. The influence of the remedy on leucorrhœa is likewise, in all probability, due to the improvement in the circulation. The effect in affording relief to the ovarian pain admits of the same explanation.

The vascular changes associated with menstruation are, however, not merely local, but are truly systemic. The relief obtained in headaches can therefore be also understood by an improvement in the general circulation. But, as we have seen, the remedy influences not only the amount of the discharge, but also the time, by restoring the normal periodicity. This points to an influecne on the nervous system. Laschkewitsch has shown that in toxic doses "manganese causes general paralysis, at the same time the heart's action ceases, owing to the direct effect of the drug on the motor apparatus." From these pharmacological experiments, together with the results of clinical observation, we may confidently infer that the direct action of the remedy is on the vasomotor centres, and from the marked influence on menstruation it is probable that it stimulates especially the centres regulating the generative system.--*British Medical Journal.*

THE EARLY DIAGNOSIS OF EXTRA-UTERINE PREGNANCY.

By J. C. Reeve, M.D., of Dayton, Ohio.

No subject in gynecology, if, indeed, in any department of medicine, has made such rapid and substantial progress within the last decade, as extra-uterine pregnancy. Light is finally breaking in upon one of the most intricate and complicated of pathological processes, and by the extension of physiological knowledge, and by clinical observation, that which was an unsolvable riddle to former generations is becoming fully understood. The cause of humanity has gained equally with science. One of the most serious calamities which can happen to woman in connection with the transmission of life, one which is overwhelming in its effects and appalling in its sudden mortality, is at last deprived of much of its danger by the resources of therapeutics and the boldness of modern surgery.

The part which this country has taken in the advance of this subject is cause of pride and congratulation. The clear recognition of the necessity of laparotomy for rupture of the cyst, by Stephen Rogers, of New York, marks an epoch in the history of the subject. Others had suggested this measure before, but he, more clearly and more vehemently, urged the necessity of this operation upon the profession nearly twenty years before it was executed. Parry's treatise, published in 1876, is another landmark. This gives the scattered knowledge of the times, admirably collected, presented and commented upon. The scholarship, the judgment, the critical acumen of this little volume have won the highest encomiums from foreign writers, who have borne testimony to the great loss which medical science sustained by the author's early death. More recently, the application of electricity for causing the death of the fœtus, and thus by harmless means rescuing the patient from imminent peril and saving her from the dangers of laparotomy, has given renewed life to the study of the subject. This measure had in this country its earliest successes, and cures by it have since been so numerous that it has conquered for itself a position as a safe and reliable remedy, and as one of the glories of American gynecology.

I fully recognize the fact that a paper presented to an assemblage of practitioners should be based largely upon personal experience, and that doctrine should be illustrated, or theory enforced, by the recital of actual observations. I deplore, therefore, that I have not clinical experience to lay before you. Nevertheless, it is justifiable to present such a paper when the subject is one upon which but very few men have had a great deal of practical experience. Mr. Lawson Tait has had to do, ante- and post-mortem, with about seventy-five cases, yet he never had the opportunity of making an early diagnosis. Dr. Thomas has seen over thirty cases. These are the largest experiences of the world. Winckel, of Munich, all of his life at the head of a large obstetrical and gynecological clinic, has met with but thirteen cases. The vast majority of cases of extra-urerine pregnancy have been reported by individuals who never saw one before, or have seen but a few cases. We are with this subject, then, exactly as we are with deaths from anæsthetics. But few men have had the misfortune to see more than one; no one has seen many of them. Still, from a careful study of the single cases, as reported by individuals, much of value has been learned as to the different modes in which the fatal accident occurs, and as to the best means of avoiding it. By such a study of isolated cases of extra-uterine pregnancy I attempt to present one portion of the subject. The whole subject is far too wide for complete consideration, and I limit myself to early diagnosis. My original intention was to take each symptom and note its presence or absence in each reported case, and then tabulate the results. A paper upon this plan would manifestly be complex and extensive, and probably not as useful as one in which the results of a careful study of cases are clearly presented, each symptom which may be present being considered in regular order. Such a paper I have attempted to prepare, impelled by the fact that the signs and symptoms of abnormal gestation are not so fully presented in the text-books as they should be. From the nature of things the majority of cases will fall first into the hands of the general practitioner, and he should be acquainted with the points of diagnosis that relief may be afforded the patient in due season.

Cases of extra-uterine pregnancy may be classified as follows:

1. A very small number present no well-marked symptoms, and go on to full term; labor sets in, and only then the true state of affairs is discovered.

2. A somewhat larger, but still a relatively small number, are first

announced by the symptoms which speedily overwhelm the patient. Rupture of the cyst occurs, and death, by shock and hemorrhage, speedily ends the scene.

3. A large majority of cases, in which marked symptoms are present from an early period. Of these symptoms no single one may be pathognomonic, yet by a concurrence of several of them at once, or by several appearing in succession, a diagnosis may generally be made. It is to these symptoms that I beg leave to direct your attention.

First in order comes the probable existence of a pregnancy. The reflex signs of this condition are present; on the part of the digestive system, depraved or changed appetite, nausea, vomiting, salivation. The breast and nipples show the usual changes. As a general rule, the patient believes herself to be pregnant. This has been the case so frequently that some authorities hold it to be essential. Bernutz and Goupil found this feature absent but four times. When the patient has already had children, her testimony is, of course, more valuable. I know of but one authority who discredits the value of this point in the history of a case. Mr. Tait, in his late work on ectopic gestation, expresses the opinion that no reliance can be placed upon it. Still, at a later period, in making a diagnosis of ruptured cyst, he lays due stress upon the probable existence of a pregnancy when the overwhelming accident occurred.

There are two points to be noted in regard to the pregnancy. 1. In extra-uterine cases a considerable period of barrenness has preceded its occurrence so frequently as to have attracted especial attention. The existence of a desquamative salpingitis, whereby the tubes are deprived of their epithelial lining and brought to a condition similar to that of the interior of the uterus, is maintained by Mr. Tait to be the leading etiological factor in these cases. The explanation seems reasonable and far more probable than that of an obstruction of the tubes. If, then, a patient is pregnant some years after the birth of a child, or becomes so only after several years of married life, the fact should receive due consideration. 2. The ordinary symptoms of pregnancy are likely to be exaggerated, especially those of the pelvis. In the language of Parry, "the pregnancy is a stormy one."

Next in order comes derangement of menstruation. There may be the amenorrhœa which belongs to the ordinary pregnancy, but much more frequently the flow is irregular, and it may be excessive, and even continuous. Recurring gushes of blood occur, and, with pelvic pains, often lead both patient and practitioner to believe that an abortion is taking place. There will be often no further doubt upon this point should the decidua be expelled *en masse;* it is taken for a "mole" or "false conception," and looked upon as the termination of a miscarriage.

Examination of the pelvic region reveals, in many cases, great tenderness of one or the other iliac region or of the hypogastrium; there may be so much as to prevent a satisfactory investigation. Great pain at some point of this region may be complained of, and the pain radiates to the loins and down one or both thighs. There may be a febrile condition present and all the evidences of successive attacks of pelvic peritonitis.

A vaginal examination would of necessity follow such symptoms. In a case of extra-uterine pregnancy such an examination shows certain changes in the uterus and the presence of a tumor. The uterus is enlarged, in the earlier period, in proportion to the duration of the pregnancy.

It is displaced; the gestation cyst has pushed it to one side or the other, or forward so that the cervix is found close to the pubic arch. The os is patulous, the finger easily enters it. The uterus is empty. If amenorrhœa is present, the practitioner would, of course, hesitate to ascertain this by the passage of the sound; but when metorrhagia exists, or the decidua has been expelled, there need be no hesitation. The tumor to be felt *per vaginam* presents some well-marked features which serve to differentiate it from anything else generally found in this locality. It is round, smooth, elastic, giving the sensation of a tense cyst, and, as a general rule, exquisitely tender. It is situated in close proximity to the uterus, yet generally can be made out to be independent of this organ. Two features demand especial attention. 1st. The vaginal wall over this cyst or tumor shows active pulsation; vessels can be felt beating by the finger. This feature was recognized long ago by Baudelocque. 2d. The size of this tumor can be observed to change within a comparatively brief period. The growth of a gestation cyst gives an increase in size more regular and rapid than belongs to any condition likely to be confounded with it. Dr. Thomas says it can be noted from week to week.

In addition to more or less of these symptoms, or, possibly, entirely independent of any of them, may come now attacks of severe pain with symptoms of collapse. The patient is found pale, faint, almost or entirely pulseless, with most severe abdominal or pelvic pain. She seems about to die, and the practitioner may be at a loss to account for her condition unless acquainted with the course of this form of gestation. From this collapse the patient may slowly rally, to suffer again in a short period from similar attacks. Different explanations have been given of these severe paroxysms of pain, accompanied by profound depression of the vital powers. They have been attributed to contractions of the walls of the cyst and to uterine contractions. There is no doubt now that they depend upon partial ruptures of the cyst, or of vessels upon its walls, accompanied by a certain amount of hemorrhage. Post-mortem examination of cases in which these symptoms have several times occurred, has revealed a collection of clots, the difference in age of which could be plainly seen. The great practical fact is that a succession of these paroxysms may occur before the final fatal rupture, which they most surely foretell.

In a patient presumably pregnant, having had more than one such attack as this, and having a tumor to be felt *per vaginam*, there could scarcely be a doubt of the existence of extra-uterine pregnancy. But one symptom more could add to the evidence. This is, the expulsion of the decidua. This membrane may be thrown off *en masse*, when it will be readily recognized. In the case under my observation I drew it on my finger like a thimble. It may be discharged piecemeal. The existence of shreds, therefore, in the uterine discharge of a patient presenting any of the symptoms detailed, should awaken suspicion and lead to a microscopic examition. The expulsion of the decidua is a sign of the highest value, and is, by good authority, even held to be pathognomonic.

Two symptoms may seem to have escaped consideration; they are ballotement and the effects of pressure upon the pelvic organs. They belong to a later period than that to which this paper is limited. Ballotement has been observed by Thomas as early, however, as the third month. Only exceptionally can it be elicited at so early a period even by a skilful examiner. It should always be sought for; if present, it makes the diagnosis a matter of absolute certainty.

Pressure symptoms, of course, become more and more pronounced as the case advances in age.

A diagnosis of extra-uterine pregnancy is to be made, then, by a careful study of the history and of the signs and symptoms of the case in hand. No one of the disturbances it occasions or the changes it causes is of very great weight when standing alone; occurring together, however, the value of each increases in a geometrical ratio. There is an order of occurrence, also, dependent upon the period or progress of the pregnancy which should be borne in mind. The value of a coincidence of the symptoms was recognized by Bernutz and Goupil, who taught that it was by an *ensemble* of symptoms that a diagnosis could be made. An interesting illustration of what is here presented was related by Dr. Hanks, of New York, at the meeting of the British Medical Association in 1886. A gentleman, in a consultation, maintained that the case was one of extra-uterine gestation, but agreed to rest the decision upon a microscopic examination of some discharged membrane. This was reported not to be decidua, whereupon he averred his belief that a mistake had been made. A necropsy soon after proved that he was right. It is stated that the microscopic examination was made by a student.

A summing up of our knowledge upon this subject would seem to be that, while in some cases of extra-uterine gestation a diagnosis presents the greatest difficulties, and in a small number it is impossible to make one, in the majority of cases it can be readily done and even more easily and certainly than that of a normal pregnancy. This has been maintained by the very highest authority, both in this country and in Europe. Moreover, a diagnosis can be made at an earlier period than in a normal pregnancy. It has been made as early as the eighth and even as the fifth week.

The symptoms which have been detailed may be classified partly in reference to the order of their occurrence, but especially as to their diagnostic value, as follows :

1. *Suggestive.*—*a.* The general and reflex symptoms of pregnancy, especially if the pregnancy had occurred after a considerable period of barrenness.

b. Disordered menstruation, especially metrorrhagia coincident with symptoms of pregnancy; gushes of blood, accompanied by severe pelvic pains.

c. Severe pain in the pelvis; attacks of pelvic pain followed by tenderness in either iliac region, and other symptoms of pelvic inflammation.

2. *Presumptive.—a.* The existence of a tumor; this tumor presenting the characteristics of a tense cyst, sensitive to touch, actively pulsating; steady and regular growth of the tumor to be observed.

b. The os uteri patulous, the uterus displaced and empty.

3. *Certain.—a.* Paroxysms of violent and overwhelming pain in the pelvis, with general symptoms of collapse.

b. Expulsion of the decidua.

It remains to consider the conditions most likely to be confounded with, or mistaken for, extra uterine gestation. They are: abscess of broad ligaments; pelvic hematocele: retroversion of gravid uterus; a small fibroid or fibro-cystic tumor of uterus; a small ovarian or dermoid tumor; a parovarian cyst; tubal disease, as pyosalpinx; pregnancy in one horn of a uterus bicornis; intra-uterine pregnancy. It is not necessary to go over these *seriatim.* While each may in some respects closely resemble the disease under consideration, other characteristics, such as rapid growth, paroxysms of severe pain, with a history of probable pregnancy, will serve for a differential diagnosis. Undoubtedly a pregnancy in one horn of a double uterus would present the greatest, if not insuperable, difficulties of diagnosis.

The differentiation of extra- from intra-uterine pregnancy is also to be considered. It is most likely to be needed, however, at a later period than that to which this paper is limited. When the pregnancy approaches term there may be such an unusual thinness of the uterine walls that the child seems to be immediately under the skin, and this condition has caused mistake upon several occasions.

The warrant for presentation of this subject, based upon a study of reported cases rather than upon observations, has already been stated to be the necessity of directing the attention of the profession to the subject and laying before them the means of recognizing it. An awakened attention is the first step to diagnosis. In the case which fell into my hands, I recognized that I had something the like of which I had never seen before, and only realized the truth when the extrusion of the decidua threw a sudden light on the case. And it is interesting to read of cases in which even eminent men were befogged until some new symptoms flashed the truth upon them.

Still more necessary does it seem to present a careful study of this subject, since doubt has been thrown upon the possibility of an early diagnosis in one of the latest publications upon the subject. This book emanates from one whose experience is the largest in the world. That with this large experience the author has never had an opportunity of making a diagnosis before rupture of the cyst is indeed a singular fact, as he himself recognizes. But because he has not had this opportunity, it is unscientific, to say the least, to throw doubt upon what other men have done and reported; and the statement he makes that extra-uterine pregnancy presents no symptoms other than, or different from, those of disease of the tubes, finds its negation and contraction in almost every reported case.

This question of diagnosis has been complicated by that of treatment. To consider the latter is not within the scope of this paper; still, a few words are necessary as to this feature and as to the relation between the one and the other. After rupture of the cyst there is but one remedy—laparotomy. The only hope of the patient lies in prompt and bold surgery. Before rupture, electricity has afforded most excellent results; it can be applied by the general practitioner, and has not shown, so far, any evil effects or consequences. Still, there are those who advocate laparotomy as being the best measure even before rupture. Without questioning either their wisdom or their judgment, truth compels the statement that the advocates of surgical methods have displayed a partisanship which does not belong to science. The perils of laparotomy have been belittled, and the possible injurious effects of electricity have been magnified. Not only these, but the diagnosis of cases in which electricity has been successful has been repeatedly questioned, and the capacity of those who have observed them openly doubted. The position has been taken that because ballotement was not observed, or because fœtal bones were not afterward thrown off, there was no certain diagnosis. Most of the observations of the successful use of electricity were at a period before ballotement could be expected, and before fœtal bones exist. Those who thus doubt are in the position of those who would question a diagnosis of pleurisy with effusion, after recovery of the patient, because no liquid had been presented for inspection. Again, under applications of the galvanic or faradic current the tumor in the vagina has repeatedly been observed to become less tense and less tender, to cease to pulsate, its tenseness diminish and slowly disappear. Coincident with these changes, the sufferings of the patient have abated and she has been restored to health. Simply, the treatment confirmed the diagnosis. How often in another line do we pursue a similar course and accept the results without question. The nature of some tumor or ulcer is obscure; we submit the patient to a course of mercury or the iodides, and the lesion disappears. Its nature is then clear. Therapeusis has not confirmed, but it has made a diagnosis.

I present from Charpentier the following list of diagnostic errors made by eminent men, premising, however, that most of these errors were made at a period which, in a subject upon which our knowledge is so rapidly increasing, may be termed remote :

Huguier, uterine pregnancy taken for extra-uterine; Schlesinger, same; Depaul, extra-uterine pregnancy taken for a fibroid; Dolbeau and Charpentier, extra uterine pregnancy taken for a retroverted pregnant uterus; Fournier, case misunderstood until the introduction of the finger into the uterine cavity; Martin, tubal pregnancy with hæmatocele, no diagnosis; Hutchinson, similar; Orth, two cases taken for hæmatoceles; Leven, hæmatocele; Capuron, Parent, taken for anteversion; McCallum, tubal, recognized only at autopsy; Walther, pregnancy in a double uterus, sound entered the empty cavity; Jobert de Lamballe, abdominal pregnancy taken for an ovarian cyst or a uterine tumor; Bricheteau, ovarian cyst taken for an extra-uterine pregnancy.—*Amer. Journal of the Medical Sciences.*

PRESERVATION OF URINE FOR MICROSCOPIC EXAMINATION.—When it is desired for any reason to preserve urine for making a microscopic examination, Wendringer recommends the addition of a solution of boric acid in borax, made by dissolving 12 per cent. of boric acid in a 12 per cent. solution of borax. To the urine, to be preserved, one-fifth to one-third of its volume of this solution is to be added.—*Amer. Jour. Med. Sciences.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., } Editors.
GEO. GILLETT THOMAS, M. D., " }

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* THE CAROLINAS. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* JOURNAL, *by sending the address to this office, Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* THOMAS F. WOOD, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

AN ASYLUM FOR INEBRIATES.

The Constitution of North Carolina provides for the erection of an Inebriate Asylum (Art. II. Sec. 9) : "It shall be the duty of the Legislature, as soon as practicable, to devise means for the education of idiots and [the proper care of] inebriates." The time is fast approaching when we will be driven to the necessity of erecting such an asylum for both classes mentioned in the Constitution, especially for inebriates, as public opinion has far outrun the action of our Legislature. The initiative taken at the Elizabeth City meeting of the Medical Society has fairly opened the question, and we would like to see it fully discussed by the profession, and offer our columns for the purpose. We take pleasure in presenting in this issue an article by Dr. E. J. Kempf, of Jasper, Indiana, and commend it to the consideration of our readers. Dr. Kempf has made previous contributions on the same subject, that have attracted the attention of numerous readers in other parts of the country, and we bespeak for him the same attention among the profession of our State.

REHABILITATION OF THE BOARD OF CHARITIES AND CORRECTION.

We are sure that our readers will be interested in, and will ponder well, the report of Dr. Battle, the Chairman of the Section of State Medicine, prepared for the Elizabeth City meeting of the Medical Society. It is full of wise suggestions and based upon correct premises, viz: that our charitable and penal institutions should be under the supervision of a Board independent of the managers and officers of these institutions and in no way dependent upon them for their appointment. Every officer at the head of these institutions in the State, who has the proper performance of his duties at heart, will welcome the supervision by a Board wisely chosen, in order that the people may know, through the disinterested reports of such Board, how they are performing their stewardship to the State—to the people—and to profit by whatever suggestions that would tend to render their service more efficient.

So far, the efforts to keep such a Board in active operation, notwithstanding it is, or should be, formed under the Constitution of the State, have been entirely futile. The reason seems to be, according to the reading of Dr. Battle's report, that no money was appropriated to pay the expenses of the necessary officers. This is the old, old story of such matters in our State, and has been the cause of many a failure, and is now threatening some of our most needed institutions. That a Board founded upon a constitutional provision should fail to receive the support of the Legislature, is simply to say that the members failed in an imperative duty.

Somehow or other, in great America, we are much given to making laws, which we execute or not, according to the popularity of the law, and it is a well-known fact that jurors are sometimes selected by lawyers for the defense in cases of murder, because of their well-known opposition to hanging for murder, knowing that, rather than haggle over a verdict, they will vote "not guilty," because of their disbelief in the righteousness of the demands of the criminal code. So that, throughout our communities, we find a current of belief that an unpopular law is not to be respected, especially if the law is one reformatory in its principle, and that principle is one which holds to personal accountability for old errors which have not before been interdicted.

The attempt to enforce the behests of the Constitution as to the formation of a Board of Charities and Correction came at a time when our beloved State was in the hands of corrupt officials, many of them strangers to the people for whom they were making laws, some of them transformed by a military order from slaves to be lawgivers. The one man who worked faithfully for the establishment of this law upon the basis of humanity, was Dr. C. Tate Murphy, an honored member of the State Society, a pure legislator amidst corruption in high places, a philanthropist of the practical sort, who, after an honest effort, was compelled to confess that he could do nothing with the law as it stood. It was unpopular with officials, high and low—its duty was to bring to light the shortcomings of officials who had never before had their public trusts inspected or enquired into. Even at a later day in the history of the State, Gov. Vance's popularity was not sufficient to induce the Legislature to sustain this constitutional provision.

During the session of the Legislature of 1882 (?) it was again proposed by the North Carolina Board of Health that that Board should be constituted a Board of Health Charities and Correction. The principal objector, in fact, one who lobbied with much assiduity against it, was a member of the original Board of Charities and Correction, and his popular objections defeated the measure before it had reached the committee room.

Mature consideration of the whole subject convinced the Board of Health, as then organized, that it was as well that the alliance of the two Boards had been defeated, more especially in the light of the ignominious failure of such an enforced coalition in Massachusetts.

Dr. Battle's suggestion, therefore, has many things to be said in its favor, but the principal objections we will state briefly: 1. The Board of Charities and Correction is unpopular. Its life must depend upon an appropriation for its support and in the coöperation of the county and State officials entrusted with the penal and charitable institutions, and so far they have failed to take any interest in it. 2. The State Board of Health has succeeded in ten years, by its alliance with the medical profession of the counties, in building up an interest based on our growing knowledge of sanitary matters, a system of supervision, as rudimentary as it may be still considered, still strong enough to have influenced in these few years a marked improvement in our jails and poor houses. This is almost entirely due to the pride of the medical profession: ignore this, and the whole system drops into the same obsolete condition of the Board of Charities and Correction. 3. But suppose we unite the two Boards, what would then happen? Why, this! The Board of Charities and Correction being founded on a constitutional provision, it would be required that the law constituting the Board of Health would have to be engrafted on the other law, and would lose its vitality. Or, what would be more serious, as soon as the two laws were combined, even in the way most favorable to the plan so far executed by the State Board of Health, it would throw the selection of the members of the Board into the Legislature, the medical profession would no longer have a voice in it, and the day such changes are made will be the beginning of a certain failure. So far as we can see, from our knowledge of all the points bearing upon the question, the day the two Boards are coalesced, that day the influence of the best organized profession in the South--the Medical Society of North Carolina—will be estranged from this great work, and the end is easily conjectured.

That there is a duty for the Board of Charities and Correction in the supervision of the management of State institutions—moral and financial—is very evident, and if such a Board were faithful, it would be very much occupied without ever touching sanitary questions, or that of vital statistics. These latter matters must be left in the hands of a State Board of Health, and a State Board of Health of increased executive authority and an adequate appropriation of money.

WHO IS TO BE CONSIDERED A MEDICAL PRACTITIONER ACCORDING TO THE LAW?

There is a class of men in our State who come in under the "amnesty clause" of the last law regulating the practice of medicine, the terms of which are that "he must make oath that he was practicing medicine or surgery in this State prior to March 7th, 1885," This clause could not reasonably imply that any man calling himself a doctor, having gone into the business without any preparation, is therefore to be considered one in the eye of the law. We trust that the Clerks of Superior Courts who are to pass upon these cases will refuse all such men as they are in doubt about. For example, a man is known to be an itinerant vender of worm medicine, and has no other right to the title than this, is clearly not a doctor. Another locates in the back woods with a few patent medicines, having had no previous medical education or even pretension to it, exhibiting as his only authority a letter from a relative who is a physician, by his own admission merely throwing himself at a venture upon the credulity of an ignorant and helpless country people, is clearly not a doctor according to the accepted idea in the profession. 'A druggist, having no medical education, who for years has done counter prescribing, basing his practice upon what he has caught up from the prescriptions he has compounded for physicians, is not only not entitled to be called a physician, but is among the most dangerous class of those who illegally practice.

It looks almost trivial to state such simple cases of disqualification, but they are a few of the real cases which occur to us as as we write, and the number could be multiplied by the scores.

Our stand is this towards those who are not graduates, nor licentiates, that if one of these so-called physicians is such an one as we could not in justice and reason consult with, he ought to be treated as an illegal practitioner, refused to membership in the county boards of health, and the burden of the proof thrown upon him, before the courts, to show his title. As the election of Superintendent of Health is approaching (September 15th), doubtless there will be many unlawful practitioners desiring to become members; we advise that the qualified practitioners refuse to admit to membership all doubtful persons, leaving the burden of proof upon them.

This "amnesty clause" was a bitter dose to swallow, but the generation of the unqualified men will soon pass away, and we will see, in the course of twenty years or so, that time has purged our profession of the most of them, and long before they pass from the stage, the superior education of the younger men will have driven them into obscurity.

WE SECOND THE MOTION OF DR. SQUIBB.

Dr. Squibb, in "Ephemeris," July, 1889, says: "The work of the last revision is understood to have been done almost entirely by sub committees, and their work was collected, collated, corrected, arranged and re-written into uniformity of style and nomenclature, and was then put through the press almost entirely by Dr. Charles Rice, the Chairman of the Committee of Revision. This enormous labor, the character and quality of which very few have any adequate idea of, was quite unpaid, and money had to be borrowed to defray the actual outlay for expenses. Now, there is plenty of money, and always will be in future if the book be fairly well managed, and therefore this taking of so much unpaid labor should never occur again, and ample provision should be made for trying every single process in the book, by competent hands, before it is finally adopted. Every article of material should be examined, and every test be applied. The President of the Convention should be Chairman of the Committee of Revision, and he should be well paid, and be well supplied with money beside his pay, with which to employ competent aid for the work. All the work should be done under his immediate direction and control, and should then, as far as necessary, be submitted to sub-committees for revision and confirmation, thus reversing the plan of the last Revision where there was no money with which to have the work done in this way. The Chairman of the last Committee of Revision, with his well-known scholarship, ability, energy and industry, and his now matured knowledge and experience in the work, is the man of all others fittest for President of this Convention of 1890, and for Chairman of the Committee of Revision, if he can be induced to take the position. And the inducement most likely to have weight in influencing him to accept the position, would be to confer on him the entire responsibility, with the committee-men for his counsellors, and his sub-committees. This writer has worked enough for him and with him to know his peculiar fitness for this important work, and as he has been thoroughly tried in it during the past ten years, and has done all that was possible for one man to do, the writer is constrained to offer the opinion that the Convention will consult its best interests in trying every means in its power to get Dr. Rice to accept its presidency; and, although neither a delegate nor a member of the Committee, the writer hereby, without fear of adverse criticism, nominates Dr. Rice for President of the Convention of 1890."

[We most heartily second Dr. Squibbs' nomination, provided the Convention votes Dr. Rice a salary.]

HYDROPHOBIA FROM BITE OF A CAT.

The occurrence of hydrophobia with a clear history is sufficiently rare to merit this notice of a case recently in the care of a physician of this city.

On the 26th of May, Frank W., a child 19 months of age, was playing in his father's yard, when a strange cat sprang out from behind a box and bit him in the face, leaving the imprint of its teeth in seven places. Four of the three were quite large, the others insignificant. It is noteworthy that the cat had been seen by the father a few moments before, and its actions were unnatural, and it was known to be a cat not belonging to his household or the neighborhood. As soon as the child was bitten a physician was sent for, and, not believing or suspecting that the animal was rabid, he prescribed a lotion for the face and assured the parents there was no danger. The larger bites twisted over and discharged some pus. In a week's time the face was apparently well, and all fears were allayed. But three weeks after the injury was inflicted these larger places all inflamed, and there was distinct vesication around the edges. As these points of inflammation were subsiding there appeared patches of herpes zoster about the child's body, chiefly on the gluteal region, and the crops of blisters were apparent, though quite scattered, when he came under treatment here.

On the 7th of July the child had an attack of nausea and was restless at night. The mother, thinking the sick stomach due to constipation, gave an enema, which brought no relief to his symptoms. On the night of the 8th she attempted to give the child a dose of oil, but, from her description of his symptoms, she failed, because of the onset of œsophageal spasm. At noon of the 9th he was first seen by a physician here. His symptoms consisted in restlessness, irritability and inability to swallow liquids or to nurse. He would grasp a tumbler of water, carry it towards his lips, and suddenly crying out, attempt to throw the vessel down. He was put on ten-grain doses of chloral, repeated every two hours until sleep was induced, and great quiet enjoined. At the afternoon visit he was still restless, rapidly changing his position and going, if allowed, from one person to another. His breathing was quick, pulse rapid, pupils dilated, and every evidence of fright prominent. Noises increased his unhappy condition, until he was brought under the influence of the chloral. He passed a tolerably quiet night, but the morning of the 10th found him haggard, still wanting water, but suffering acutely with spasm when it was brought to him or he was urged to drink. Temperature on the 10th at 9 o'clock was 101° (rectal), pulse and breathing and general appearance of fright the same, although he was stupefied on the chloral. The drug was repeated so as to continue the influence to moderate narcotism. At 10 o'clock p. m. temperature was rapidly rising, then 103°. At 3 o'clock p. m. he had a general convulsion, and when seen by the physician half an hour later was in partial stupor varied with convulsions of more or less severity. Rectal feeding was attempted but failed, and the administration of medicines by the bowels was without result. During the afternoon the temperature rapidly rose to 106° and above, and coma set in, death ensuing at 8 o'clock in the evening of the 10th of July.

The child was a very strong, healthy little fellow, and had been singularly free from sickness all of his life. He lived in an inland town in South Carolina and was brought here on the night of the 7th of July.

The remarkable absence of salivation of any noted amount is only to be accounted for by the rapid culmination of the disease in death.

To resume, the animal was rabid. It not only attacked the child without provocation, but also the father, who went to the child's rescue. It was killed, but was in convulsions before its death. The wounds inflamed without known cause, and, after a period of apparent safety, between the fourteenth and twenty-first day after the bites were inflicted.

The acute symptoms of hydrophobia began on the forty-third day after the original poisoning, and the herpes zoster appeared after or about the time of the secondary inflammation of the wounds, and continued up to the fatal issue, denoting the profound effect of the poison probably on the nervous system, which was only awaiting the full incubation to break out in the fulminant attack. Except the absence of profuse salivation, the case is complete in history.

The child was seen by several physicians, and the diagnosis of the attendant confirmed. An attempt at inoculation of a healthy animal with saliva from the child was intended, but the enforced absence of the attending physician from the city, immediately after the death of the child, prevented the experiment being made.

LINES OF A SPECIALTY SHARPLY DRAWN.—The *London Medical Recorder*, among some other curious things relating to the medical profession, tells the following: "In China, it appears, the distinction between physicians and surgeons is more sharply defined than with us, and every man is expected to stick to his own branch of the profession. A rich merchant was struck by an arrow which remained fixed in the wound. The principal surgeon of the place was sent for, and, after insisting on pocketing his fee in advance, cut off the projecting end of the arrow, leaving the point buried in the patient's body. On being asked to extract it, he said that medical etiquette would not allow him to trespass on a brother practitioner's province; the arrow being inside the body, the case was clearly one for a physician!"—*Boston Medical and Surgical Jour*

REVIEWS AND BOOK NOTICES.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. I. Session of 1888. Birmingham, Alabama. Press of Caldwell Printing Company, 1889.

In 319 8vo. pages we have the Transactions of the Southern Surgical and Gynecological Association. It is a creditable volume, containing many good papers, by gentlemen who make surgery a part of their business.

We do not know what was the origin of the idea that there should be a Southern Surgical Society, it surely cannot be because there is anything distinctively peculiar to our section of America in surgical proceedings. Some of our practitioners are deeply imbued with the modern practice of aseptic and antiseptic surgery, others have not yet opened their eyes to the greatness of the era. Some of our Southern physicians do good surgery, and would do nothing else if they could get enough of it; most of them, even in our largest towns, could not live by their surgical practice alone, and therefore do general practice. These remarks apply also to the North, but in both sections more capital surgery is done by our country doctors than ever before, this impulse having been imparted by the war. As a matter of convenience of intercommunication, to have a Southern Society is well enough, but it is not the best way of promoting American Surgery. The Southern brain is as quick to invent and put in practice surgical procedures, but so soon as the Southern man reaches a high position he must go to the large Northern or Western cities to get patrons. The centres of population in this country, therefore, do not necessarily represent the intellectual growth of a particular centre, but only the accumulation of the most gifted, drawn together by the superior advantages offered. Surgery is a great republic having no sectional boundaries, and no effort can so distinctly confine it. If the Southern Surgical and Gynecological Society is to flourish, it must have a better foundation than the pride of section, and we have no doubt it has.

The papers contained in this volume are as follows: "The operation of Gastrostomy, with a report of a successful case, by W. B. Rogers, M.D."; "Shock of Injury, by John R. Page, M.D."; "Operative Procedures in Hypertrophy of the Prostate, by R. D. Webb, M.D."; "Antiseptic Surgery in Country Practice, by J. M. Taylor, M.D."; "Dermoid Cysts of the Coccygeal Region, by E. J. Beall, M.D."; "Fractures of the Forearm, by John Brownrigg, M.D."; "The Treatment of Strictures of the Urethra by Electrolysis, by S. M. Hogan, M.D."; "Cases in Surgery, by R. M. Cunningham, M.D."; "Indications for Operative Interference in Cerebral Troubles, by T. O. Summers, M.D."; "Cranial Surgery, by De Saussure Ford, M.D."; "Practical Aseptic Surgery, by J. W. Long, M.D."; "Plaster of Paris in the Treatment of Fractures, by W. F. Westmoreland, Jr., M.D."; "Operative Procedure in Traumatic Epilepsy, by J. T. Wilson, M.D."; "Report of a Case of Aneurism of the Ascending Aorta, Involving the Innominate Secondarily, by F. T. Meriwether, M.D."; "A Case of Cut-Throat, by J. M. Taylor, M.D."; "Forces Preserving Cerebral Integrity, with Report and Study of Cerebral, Meningeal and Sinal Lesions, by W. Locke Chew, B.S., M.D."; "Electrolysis in Morbid Alterations that are Produced in the Prostate by Gonorrhœa of the Urethra, by John D. S. Davis, M.D."; "Cystoscopic Exploration, by H. V. L. Brokaw, M.D."; "Chronic Pelvic Cellulitis and the Conditions which Simulate It, by Virgil O. Hardon, M.D."; "The Medical Treatment of Fibroid Tumors of the Uterus, by Bedford Brown, M.D."; "A Successful Vaginal Hysterectomy for Carcinoma Uteri, by Wm. H. Wathen, M.D."; "Certain Forms of Menorrhagia and Treatment of the Same, by W. D. Bizzell, M.D."; "Two Cases of Vicarious Menstruation, in One of which was Floating Kidney, by De Saussure Ford, M.D."; "A Review of the Treatment of Uterine Diseases by Electricity, by J. R. Buist, M.D."; "Fibro-Cystic Tumor of the Uterus, by E. J. Beall, M.D."; "Laceration of the Perineum and Rectocele, by J. H. Blauks, M.D."; "The Field and Limitation of Laparotomy, by I. S. Stone, M.D."; "Aphorisms of Antiseptic Surgery and Gynecology, by F. T. Meriwether, M.D."; "Annual Oration, by W. F. Heyer, M.D."

We would like to speak particularly of some of these papers from which we have received so much instructive material, but commend the perusal of the volume to our readers. The officers of the Society for 1888–'89 are: President, Hunter McGuire, M.D., LL D.; Secretary, W. E. B. Davis, Birmingham, Ala. Among the membership we notice four names from North Carolina. The next meeting will be in Nashville, Tenn., November, 1889.

A LABORATORY GUIDE IN URINALYSIS AND TOXICOLOGY. By **R. A.** Witthaus, A.M., M.D.

Dr. Witthaus has been eminently successful in producing text-books especially adapted to the profession of medicine. His large experience in teaching medical students, his knowledge of the fact that to get their attention only such matters as are very practical will be appropriated by the average doctor; knowing, also, that there are times when the laziest and most indifferent doctor must have enough chemical knowledge for an emergency—in short, knowing the woful ignorance of most doctors about practical chemistry—he has prepared just the book for them in this "Laboratory Guide." It is printed oblong on alternate leaves, giving a blank page for notes.

We have entered on one of our blank pages opposite page 16: "When, by the addition of liquor potassæ, there is an abundant precipitate, first filter the mixture before adding the copper solution."

It always gives us pleasure to recommend to the profession those works they really need to help them in their practical every-day affairs, and this little book is one of that kind.

STYRONE—a new antiseptic—is derived from liquid storax and Balsam of Peru. It has an agreeable odor, is said to be efficient and non-poisonous, is described with results of some trials of it made in the *Boston Medical and Surgical Journal*, by Dr. H. H. A. Beach, of Boston.

THE pendulum of therapeutic ideas in France seems to be swinging back into a mediæval groove, judging from certain recent developments in the Paris Biological Society. A recent report thereto by Brown-Sequard, recalls the formula for "Diasatirion" of the Cordic Dispensatory of 1546, which was a survival in sixteenth century materia medica of the "Satirion" of the time of Nero. "Disasatirion" contained, among other ingredients, the testicles of the wolf and skink. Brown-Sequard, evidently inspired by this formula, has lately claimed for a new preparation, having as an essential part these ingredients, properties almost identical with those ascribed to "Diasatirion."—*Medical Standard.*

CURRENT LITERATURE.

HORSE-NETTLE IN EPILEPSY.

Dr. J. L. Napier, of Blenheim, South Carolina, writes to the *Medical World:*

Solanum Caroliniense (horse-nettle: A low, perennial plant, with deep, running roots, belonging to the order Solanaceæ, the same which contains the potato, tomato, belladonna, etc. The stems are one to two feet high, rather straggling branches, and half shrubby at the base. The stems and the midrib of the lower side of the leaves are more or less thickly armed with short, sharp, stout, yellowish prickles. The stem and leaves are also covered with minute, star-shaped hairs of from four to eight points. The leaves are large for the size of the plant, two to four inches long, short-stalked, oblong in outline, sometimes only coarsely and irregularly toothed, sometimes with three to five deep lobes on each side.

The flowers are in racemes, mostly from the axils of the upper leaves. There are from three to ten flowers on each raceme, on rather short pedicles. They are an inch or less in diameter when expanded, having a five-parted calyx and a five-lobed bluish or whitish spreading corolla. The flowers are succeeded by round berries, half to three-fourths of an inch in diameter, when mature, of a yellowish color, and filled with pulp and numerous small seeds.

The pedicles of the berries are reflexed, and the berries remain upon the plant into the winter. Common in the Southern and Western States, and becoming too frequent in the North.

Darlington says: "This is an exceedingly pernicious weed, and so tenacious of life that it is almost impossible to get rid of it when once fully introduced. It grows in patches so thickly as to deter stock from feeding among it, and even to monopolize the soil, while its roots gradually extend around to a great depth. It seems to prefer sandy soil, at least in the North, where it is sometimes called sand-brier. As it is perennial, and spreads by the root, only the most thorough treatment will eradicate it."

I first heard of the horse-nettle as a remedy for epilepsy during the summer of 1887. I then heard of a negro girl who had been an epileptic from early childhood, whose epileptic seizures I had often witnessed, who had been cured by the use of it; also another, who was epileptic, in the same way.

The negroes who used it made a tincture by steeping the berries in whiskey. The girl above alluded to undoubtedly had *le grand mal.* Her general appearance was idiotic. She had been cured and had had no return of her old trouble for several years. After finding out all I could about the nettle, I determined to try it in the case of a white woman, who lived in my neighborhood, who had been suffering from epilepsy for several years. It was very seldom that she went a week without a convulsion, and would sometimes have several in close succession. I have seen her, especially at her menstrual periods, when it seemed impossible for her to survive them. She began the first of October, 1887, taking a tablespoonful of the preparation made from the nettle, three times a day, made by bruising the berries and steeping them in whiskey. Four months after she began the use of the above preparation her husband reported that, with the exception of a slight spasm of the muscles of the neck during the first week, she had had no return of her "fits," though she was still troubled with some headache (which had been a very troublesome symptom in her case), said his berries were out, and wished to know if the roots would answer the same purpose. I advised him to try them. He did so, and reported that they had the same effect as the berries. She continued the preparation made from the roots two or three months, when her headache having subsided she quit the use of it, and up to this writing has had no return of her epileptic attacks. I mention the use of the roots in this case, as it is the only one, so far as I know, in which the roots have been used.

The above case had been the rounds of all the physicians in reach of her, and all, myself among the number, have failed to give her any material relief. I have used it in three other cases of epilepsy with relief to the attacks so far. I have used it in hysterical convulsions with prompt results. I have also used it in one case of eclampsia, in which it controlled the convulsions, after I had failed with everything else I had tried. It was after its use in this case that I wrote Dr. Taylor and requested him to experiment with it.

I prepare a tincture by bruising the berries and adding dilute alcohol to them, using berries enough to be sure and have a tincture saturated with the active principle, then give one teaspoonful every three hours until drowsiness and symptoms of vertigo are produced, and then lengthen the intervals between doses. In the cases of epilepsy I instructed the patients to begin with a teaspoonful three times a day and gradually increase the dose until it produced symptoms of vertigo, then to lessen the dose until that symptom subsided.

Whether the horse-nettle will prove a success or not, I do not know. So far as my limited experience goes, it is a very valuable addition to our active agents in combatting convulsive disorders.

My object in requesting Dr. Taylor to give it a trial, was to try and settle the merits of the drug so that if it proved a failure, the profession would not have another new remedy that is worthless foisted upon them.

COMPARISON OF THE VALUE OF PARALDEHYDE AND SULPHONAL.

The practical deductions that my experience with these two drugs would suggest are:

1. That paraldehyde is the safer hypnotic where a continuous action is desired.

2. That paraldehyde has a wider range of application in mental disease than sulphonal, and that in the insomnia of acute or chronic disease, where pain, cough, dyspnœa or fever exist, sulphonal is less effectual than paraldehyde.

3. That in all depressed mental states sulphonal acts ineffectively, and acute melancholia should be a contra-indication to its use, while in maniacal conditions it is more satisfactory than paraldehyde. That the use of the former in general paralysis of the insane should be carefully considered, while in acute melancholia the latter is usually effective.

4. That a high degree of physical debility with insomnia should contra-indicate sulphonal.

5. That in 18 per cent. of cases various degrees of sulphonal intoxication appear, and that it would seem that the drug is capable of being dangerous to life, and that, therefore, the commencing

doses should be small, some persons being extremely sensitive to its influence.

6. That the effects produced by sulphonal are not always in proportion to the dose administered, and that in some cases, at least, it very seriously interferes with the normal bodily secretions, while paraldehyde does so to a very much less extent.—C. M. HAY, M.D., *in American Journal Medical Sciences.*

DEATHBED CONFESSIONS.

A protest was not long since raised against a too ready acceptance of a dying declaration as necessarily true, and it was urged that, owing to his enfeebled condition, the mind of the dying person could seldom be in that clear state so necessary for a strict adhesion to absolute facts. But a distinction must be made between dying declarations and dying confessions. In the former, the person can have but little motive for not speaking the truth, and, if the medical man who received the declaration thought that the dying man was not in full possession of all his mental faculties, he ought to say so; but, in regard to deathbed confessions, motives often do play a very important part. A single instance recently narrated in an American contemporary by Dr. Benjamin Cotting will suffice. A man under sentence of death for murder confessed to having committed another murder two years previously. In this case the victim's skull had been beaten in, and the murderer stated where he had done the deed. The discovery of a hammer at the spot indicated by the criminal seemed to lend great plausibility to the confession; but Dr. Cotting had examined minutely the wounds on the murdered woman, which were peculiar, consisting of numerous clean, sharply cut, crescentic wounds, such as might have been produced by the hammer in question. The criminal had in reality had nothing to do with this first murder, and it was evident that he had only made the statement in the hope that some well-disposed but foolish people would take up his case and urge that a monster who could be guilty of such atrocious crimes could not be in his right mind, and thus obtain an acquittal for him on the ground of insanity. Such a train of events had, indeed, happened a short time before his conviction in the case of another murderer. It may be urged that such a confession as this ought not to be compared with one made by a person dying from disease; but to this we would say that to the condemned criminal the fear of death must be quite as near and as real as to the person on his deathbed from a natural cause. It can easily be understood that other motives might be at work to influence the dying person to make an untrue statement in his confession; and, indeed, it might well be said that a person who could alone or in consort with others take the life of a fellow-man would not be likely to stick at a lie on his deathbed if it could save a companion or confederate from the gallows.--*Brit. Medical Journal.*

THIS AND THAT.

(*Two Medical Portraits to be Hung up in the Heart.*)

There are teachers, and teachers of medicine, just as there are doctors. One class is kindly considerate and helpful, the other unkindly, inconsiderate and obstructive. Samples of either may be found in any considerable city. Illustrative of these, a distinguished laryngologist related to us a bit of personal experience. Many years since he was house surgeon at Charity Hospital under the late Dr. W. H. Van Buren. On one clinic day the clinic room at Charity Hospital was especially crowded, and the material had been carefully prepared by our friend. In his polished, courtly manner Dr. Van Buren described the characteristics of a surgical case, the various steps of an operation that was called for, placed the patient in the proper position, and then, taking up the knife, handed it to our friend, saying he desired him to do the operation. In well chosen phrase he introduced him to the class. The operation, which was a simple one, was quickly and deftly done after the manner of the distingushed professor. The effect of this kindly courtesy by the professor to his young assistant exerted a magic influence upon the spectators. Round after round of applause attested their hearty approval. The lesson was one of the most important ever taught that class. Its memory has modified for good both the chief actors and the witnesses.

In a more humble and less conspicuous manner the same deed is being daily repeated in the relations of older practitioners to their juniors. Those of us who have been the recipients of such kindly helpfulness hold the occasion as a white letter-day in our lives, and the physician so helping us as a type of that which is noblest in the profession.

But alas, the opposite of this is also to be seen. Scene second is also laid in the amphitheatre of a large hospital. The seats are all crowded with waiting students and medical men. A patient is introduced whose leg needs amputating below the knee. The assistant of the surgeon has arranged all things for the convenience of his chief. The surgeon is a gray-haired man, known throughout the surgical world for certain professional acquirements and personal characteristics. Suddenly a thought strikes him. It is a favorable opportunity to exhibit his superior experience and to display authority. So he seats himself, and in a forbidding manner orders his assistant to perform the operation. At every step he took great care to point out the defects in the technique of his young assistant. Merciless criticism accompanied every move. Sarcasm and ridicule were employed to such an extent as to seriously embarrass the young man. The operation was finally completed, but there were no plaudits for the professor. The operator was humiliated, angry, discouraged, and the audience was thoroughly incensed at the unfair deportment of the professor. Apparently the professor thought he had done a smart thing, but he would change his mind could he but know the real thoughts of his audience. The same man has the reputation of being brutal to his poor patients and quarrelsome with his professional equals.

Here, too, we have a type of medical man to be found in most large communities, and not a few small ones. He is the man over whose death there is general rejoicing. Along his pathway lie the wrecks of those ruined or seared by his selfish egotism, his brutal disregard of all right, all equity, all manliness. Low in his make-up, low in his life, professional or otherwise, he drags to his level all whom he can reach.

The practical question is not connected with a reform of this latter class, as this is rarely possible, but it is which of these types shall the young men entering the profession model their lives after! To each young medical man is given the alternative of being "this or that."—*American Lancet.*

CEREBRO-SPINAL FLUID OF THE NATURE OF A SECRETION.

Dr. W. D. Halliburton (*British Medical Journal*) makes a report on cerebro-spinal fluid. He shows that there is a reducing substance in the fluid which Claude Bernard spoke of as sugar. This reducing substance Dr. Halliburton believes to be, not sugar, not alcapton, as suggested by Gorup-Besanez, but pyrocatechin. There is no peculiarity as regards the saline constituents of cerebro-spinal fluid. It is in the exceptional character of the proteids, and in the presence of pyrocatechin, that this fluid stands clearly marked off from serous or lymph like fluids, and would be more correctly classified with the secretions.

MEDICO-LEGAL DETECTION OF HUMAN BLOOD.

Up to the present time the only method of distinguishing human blood is by the measurement of the red corpuscles. This method can only be applied to fresh blood. S. Monckton Copeman, M.A., M.B., gives us a new process in the *British Medical Journal*, July 27, founded upon the apparent fact that human blood contains no crystallizable hæmoglobin.

The process of crystallization of the blood adopted by the author is that of Gamble, and is as follows: to defibrinated blood add about 1-16 of its volume of ether, and shake the mixture for some minutes until it becomes perfectly transparent or laky. It is then to be set aside in a cool place for a period varying from a few hours to two or three days, when crystals form in abundance. Care should be taken that, after the blood has been made laky, it should be kept under the atmosphere of ether for some time, which may be accomplished by performing the agitation of the blood with ether in a stoppered bottle, and gradually allowing the air to escape as the ether is volatilized. By this means the contained air is gradually replaced by ether vapor, while at the same time the small portion of blood which is forced out around the stopper of the bottle, on drying, fixes it in its place, and so prevents ingress of air again. Leave the bottle in a room of ordinary temperature. The thing to be especially observed is that the blood be allowed to remain a sufficient length of time in contact with the ether. The right period is readily hit upon by removing a drop of the blood to a slide, after varying lengths of time (two days, at least, for some of the animals), and then, when the edges of the drop are slightly dry, gently lowering a thin cover-glass on the surface of the drop. The cover soon becomes fixed by the drying of the blood at the edge, and then, if the preparation be examined under the microscope, the commencing formation of radiating crystals of oxyhæmoglobin will often be seen in an hour or so, while they gradually enlarge in size to such an extent as sometimes to occupy the whole space beneath the cover-glass. It is advisable not to cover the drops at once, as the large vacuoles caused by the presence of the ether seriously interfere with the formation of the crystals. He has crystallized the blood from the following animals: horse, bullock, sheep, pig, dog, cat, rabbit, squirrel, Guinea-pig, rat, mouse, chicken and pigeon, covering nearly the list of animals whose blood would be used with criminal intent.

A solution of bile-salts added to the blood will cause the coloring matter to crystallize according to Burdon-Sandeson. According to Copeman it seems "perfectly certain" that the colored crystals of human blood is composed of reduced hæmoglobin, not of oxyhæmoglobin.

Very small quantities of blood sufficed to perform the test, and dry blood-stained cloth yielded crystals after three days.

THE KOLA NUT, which is used largely in the interior of Northern Africa as a stimulant, is found by Surgeon Frith (*Brit. Med. Jour.*) to contain the following percentages: caffein 2.4, theobromine 0.02, water 11.9, proteids 7.7, starch 33.7, sugar 2.8, fats 0.68, tannin 1.6, coloring matter 3.7, cellulose 30, ash 6.5. This agrees with previous analyses in U. S. Dispensatory.

DR. SQUIBB'S EPHEMERIS (JULY, 1889) HAS MANY MATTERS OF INTEREST.

Diphtheria; Evolution of Communicable Disease; Disinfection by Burning Sulphur; Hydrogen Peroxide; Opium Assay; Boston Opium; Specific Gravity of Liquids; Crude Cocaine and Its Assay; Spirits of Nitrous Ether; Cascara; Neutral Oleic Acid; Musk; Tincture of the Chloride of Iron; Commercial Islap; The Pharmacopœia of 1890; Testing of Lithium Carbonate; Tincture of Strophanthus.

We were hungry for another "Ephemeris," this being the first one that has visited our library table for many months, and the first impulse was to devour its contents at one sitting. The above transcript of the articles treated show that some attention has been given to medical subjects as well as to pharmaceutical chemistry. Dr. Squibb was President of the King's County Medical Society during the six consecutive meetings when the treatment of diphtheria was discussed. The Brooklyn profession have given us many good things, but none more practical than the treatment of diphtheria. That Dr. Chapman's alcohol treatment still holds its own after years of trial, and is nearly as popular as corrosive sublimate, shows that either it has effected cures, or else the disease has been of a less virulent form, the latter half of the proposition being one of the suggestions of Dr. Squibb. We expected to find some notice of the oil of turpentine in such a protracted discussion. "Sajou's Annual" for 1888 has so much of a positive character about this drug, that we presume it must have been used largely. In the chief commercial port from which it is exported it has been sadly neglected as a remedy, and we venture to say, at the risk of being called skeptics, that all remedies lose their celebrity when they are pitted against such cases as we encountered in Wilmington in 1875.

We quote some of Dr. Squibb's conclusions from his "Evolution of Communicable Diseases":

1. Susceptibility to disease must precede diseased action; and the causes of disease, whether communicable or not, must be evolved from this susceptibility.

2. This susceptibility is acquired upon a normal basis of health, which basis has a normal tendency to persist or resist, and therefore the susceptibility is preventable.

3. This susceptibility varies in degree from insusceptibility to the highest rate; and the degree of activity or virulence of contagious virus must coincide with the degree of susceptibility in the production of disease, either factor being impotent without the other.

4. In controlling susceptibility the virus of contagion and other causes of disease are necessarily controlled.

5. Susceptibility is acquired gradually and imperceptibly through a process of evolution, and its control or management must be through a similar process." * * * "Hence it would appear that the control of disease must be a process of evolution incited and fostered mainly in the management of the young, that is, of the commencing generations where control is at once easiest and most effective."

Boston Opium is a commercial name given to crude opium which has been manipulated in order to give a uniform, shapely, sightly appearance to lumps, made to contain the lawful 9 p. c. of morphine, but having all the external appearance of original packages. These, coming into market competition with lumps not manipulated, gives all the commercial advantage to the one with fair exterior, viz: the Boston, or "Pudding Opium," as it is also called. Dr. Squibb shows that, in certain conditions, the buyer pays 79 cents per pound for appearance against actual value. It is well enough for our doctors to know something about the commercial value of crude drugs, but we would like to ask if there is a doctor in the State, of the last decade, who knows the quality of a bit of crude opium, or, for that matter, any of the crude drugs entering into the handsome coated pills he buys.

Crude alkaloid Cocaine is imported now from Peru, making a vast improvement over the importation of the leaves; and we are pleased to learn that its quality has steadily improved, notwithstanding the protective duty of 25 p. c. on the alkaloid, as against the free crude drug, it is cheaper to import it.

Dr. Squibb gives nearly half of the 124 pages of this issue to the Spirit of Nitrous Ether, comparing processes of the U. S. Ph. and Br. Ph., all of which the delegation to the Decennial Revision of the Pharmacopœia from our State Medical Society must read, as, indeed, all of the pharmaceutical articles in this number. *A propos*, we commend most heartily what the "Ephemeris" has to say of the

Pharmacopœia of 1890, for which see another page in this issue, If the present President of the Committee of Revision can be induced to remain in this position for the next decennium, it would be economy to give him a salary, and put a sufficient sum at his command for the necessary purposes of this great work.

"MITHRADATISM" (TO EXPRESS THE IDEA OF ARTIFICIAL IMMUNITY FROM DISEASE).

Medical writers have for sometime been conscious that medical literature needed a new word to express the artificial production of immunity against disease. When small-pox was the only infection which could be avoided by preparing the system against it, the term vaccinate and vaccination answered very well. But we cannot say that we "vaccinate" against rabies, or anthrax, or, in other words, we have no general equivalent for that verb.

We believe that it is Professor E. Ray Lankester who has come forward in this emergency and proposed the term "mithradate" and "mithradatism." This word is taken from the name of the Phrygian King Mithradates, who lived about 100 B. C., and who is credited with having so thoroughly saturated his system with poisons that he was proof against them.

Accepting Professor Lankester's suggestion, we could speak of Pasteur as mithradating patients bitten by rabid dogs, or mithradating sheep against anthrax; and we could speak of the successful attempts of Ferran to mithradate against cholera, and of Friere's firm belief in the mithradating power of his yellow fever cultures. The name of the process would be "mithradatism"; and the name of the thing, corresponding with "vaccine," would be "mithradatine." We submit Professor Lankester's new word to the suffrages of our readers, only regretting that he could not have found some ancient and toxibund Phrygian who had a little more euphonious name."—*Medical Record.*

[The misapplication of the words "vaccine" and "vaccinate" in connection with inoculation of virus other than that of cow-pox, has long been objected to, and while the substitute lacks euphony, it is not harsher than some of the barbaric words already in common use. Attaching the idea set forth by the *Record* to the word, it will readily grow into use.]

OBITUARY.

Professor James L. Cabell, A.M., M.D., LL.D.

The announcement of the death of Professor Cabell carries sorrow to the hearts of the profession of the whole country, but especially to the hundreds of the Southern physicians who received their medical education at the University of Virginia.

Dr. Cabell was born in Nelson county, Virginia, August 26th, 1813. He was the great-grandson of Dr. William Cabell, a surgeon in the English Navy. He died August 13th, 1889, at Overton, Virginia, at the University of Virginia. He received his degree of A.M., from the University of Virginia, in 1833, and his degree of M.D., from the Medical School of the University of Maryland, in 1834. He pursued his studies in Baltimore and in Paris until 1837, when he was called to the Chair of Anatomy and Surgery in the University of Virginia, where for half a century he taught, and for the greater period of his service, both Surgery and Physiology.

As a teacher Dr. Cabell was eminently successful, indeed, it may be said that it was his great ability, his thoroughness, his predominating moral character, which for years was the great attraction to this medical school.

In both of the branches of medicine he taught he always had the mastery of the subject. His lectures were constantly revised, and especially in physiology, that department which taxes the most active brain to keep pace with the vastness of the items which are so rapidly accumulating, and putting to the test at all times the judicial quality of the mind in the acceptation or rejection of new material, was the domain in which he probably excelled. The whole world of science was laid under contribution in his studies, and to the very last his lectures showed that he had not overlooked the most recent knowledge bearing upon his professorships. It is a rare thing for a man to be a teacher fifty years, and not teach obsolete theories, but such was Dr. Cabell's merit to the very last year of his teaching.

Dr. Cabell was one of the prime movers in the American Medical Association in elevating the standard of medical education and the institution which he represented admirably sustained his efforts, by keeping up a standard, which for many years, and even to this day, has almost no equal in this country.

Comparative Anatomy and Physiology was one of the branches taught by Dr. Cabell, and until in recent years, since a course in Biology has in a general way been introduced into the more advanced courses of some of the better medical colleges, his course was unique. It was based on his own syllabus, and showed how deeply he entered into the study of the animal kingdom. It was his profound knowledge of such subjects that made it eminently fit that he should have taken up the study of the origin of the human races. It will be remembered that in 1858 he issued a very interesting volume setting forth the origin of mankind from an original pair as set forth in the Biblical narrative. The book has now lost somewhat of its interest, since the opponents of the Biblical genesis have sought other arguments in the new doctrine of Evolution, but it is an esteemed volume in our library, and may be fairly taken as an exponent of the healthful teachings of a consecrated Christian, and a truthful exposition of sound science.

In 1878, after the devastating epidemic of yellow fever in the Mississippi Valley, the whole country was stirred to the depths on the subject of preventive medicine. Foremost among the medical men who lent their aid was Dr. Cabell. He was a prominent figure in the deliberations of the American Public Health Association in Richmond in the fall of 1878. He was chosen for the next President of this Association. But in the meantime Congress has organized a National Board of Health, and Dr. Cabell was chosen to be its first President. The story of the failure of this organization is too sad to be rehearsed now: its strength was undermined by the envy of contending parties, until political methods far beneath the high character of its President were necessary to offset the machinations of ambitious opponents, inducing Dr. Cabell to withdraw. The National Board of Health was an experimental organization which aimed at a course of usefulness, and has made a deep impression upon the whole country, and especially upon the men who have had the largest experience in practical sanitary work. Dr. Cabell entered into the study of State medicine with a great deal of zeal, and was an acknowledged leader for many years. His presence at the meetings of the American Public Health Association and other meetings of similar character, inspired confidence, denoting him as a man of earnest purpose, well furnished in all the matters of interest, and bearing the honors put upon him with easy dignity.

He was too pure and honest to do an intentional wrong, and too generous to leave it without amend when he knew of it. His exalted dignity was so softened by his tenderness of heart, that the respect which he immediately commanded soon ripened into a genuine affection with all who knew him. To the junior editor of this JOURNAL his memory is nourished with grateful recollections of his care for him. In trouble he was a wise and patient counselor, in sickness and distress a tender physician, and a friend whose acts and attentions betook of the nature of an interested father, and as a professor he was as surely just as he was rigid in his dealings with his students. He never indulged any favoritism, nor did it ever appear possible that he could, for in keeping with his honesty of purposes and living, he knew men only as they impressed him with their worth.

If he was even harsh in his judgments of students, in our recollections of him, he was justified by what knowledge he had of the person who came under his displeasure. Himself the pattern of a gentleman, he never brooked any infringement upon his dignity, nor did he ever allow an opportunity to pass when a kind word or encouraging attention would cheer up the disheartened student. It is safe to say that no one of the hundreds who have received an education at the University of Virginia fails now to feel an affectionate respect for Dr. Cabell's memory, however far in time they may be separated from him. To most of us his death is a personal affliction, and to all who have enjoyed his acquaintance, laymen as well as physicians, he will always be an example of a just man.

As his days were so full of usefulness, so, too, his rest is the reward that follows a good man's earnest, pure life.

SKETCH OF DR. J. W. S. ARNOLD, by MIDDLETON MICHEL, M.D., of Charleston, S. C.

Independently of the interest which we all must feel in the successful and distinguished career of every son of the Carolinas, there seems to me, on this very account, that an obligation exists on our part to transmit a careful record of the circumstances which do commemorate every such event.

The following is a brief summary of the very rare and rapid advancement in our profession of one who was born in Charleston, South Carolina, was educated at the North, and died at the early age of 42 years, loaded with honorable medical achievements. He is the grandson of Dr. Schmidt, of this city, and the nephew of Dr. Schmidt, Jr., the private pupil of the celebrated Valentine Mott, of New York.

Dr. John William Schmidt Arnold was born in Charleston, South Carolina, on May 10th, 1846. His father was Cicero Milner Arnold, was fourteen years a merchant in Charleston, the business being carried on by the firm of Townsend, Arnold & Co , at the corner of Hayne and Meeting streets. His mother was Mary Selena, daughter of the well-known Dr. John William Schmidt, who practiced medicine and surgery for many years in the city of Charleston.

Dr. Arnold was educated at Columbia College, in New York City, from which he was graduated in 1868 with the degree of A.B., subsequently (in 1871) receiving from the same Institution the degree of A.M. In 1869 he married Adeline Clinton Bleecker, only daughter of John Rhinelander Bleecker. In 1868 he commenced the study of medicine in the Bellevue Hospital Medical College, in New York City, entering the physiological laboratory of Professor Austin Flint, Jr., as a pupil and assistant, and was graduated in 1871 with the degree of M.D. In 1871 he was appointed Visiting Surgeon to the New York Dispensary for Diseases of the Skin. In 1872 he was appointed Professor of Physiological and Pathological Histology in the Medical Department of the University of the City of New York. Upon the resignation of Professor Henry Draper he was elected to the Chair of Physiology and Histology, which he held until the fall of 1882, when he resigned on account of ill-health, and the University conferred on him the title of Emeritus Professor—it is the only such title held by any one in the University. In 1872 he was appointed Curator to Bellevue Hospital, and subsequently held the same position to the New York Lunatic Asylum, on Blackwell's Island.

In October, 1882, when he resigned from the University, he moved to Thomasville, Georgia, hoping that the change of climate would be of some benefit to his health. In 1885, after a sojourn of nearly three years in Thomasville, he moved to Sewanee, Tennessee, and became Medical Officer of the University of the South at that place, and in August of that year he was called to the Chair of Chemistry, Geology and Mineralogy, in that Institution, which he filled for a little over a year, when he was again forced, on account of ill-health, to desist from lecturing. He subsequently (in 1887) occupied the Chair of Biology and Microscopy at the University of the South, teaching until August, 1888. For the last three years of his life he lived in Sewanee, practicing his profession in addition to his teaching.

From infancy he was always an invalid, being such a sufferer from asthma that almost all his education and reading was accomplished in his bed or arm-chair. Even during his boyhood he was deeply interested in the study of the microscope, and on entering his medical studies, with that indefatigable zeal which characterized his labors, he earnestly followed and investigated its application to physiological and pathological histology. As a teacher and contributor to microscopic research, he was well-known both in this country and abroad. His knowledge of the French and German languages greatly facilitated and enlarged his work, and enabled him to present his lectures abreast of the times. Keenly appreciative of the difficulties in making clear to a medical class many of the laws of physiology and physics, he was almost extravagant in procuring elaborate illustrations and mechanisms for demonstration in the lecture-room, never hesitating to expend nearly his entire means in purchasing from all sources the latest and most approved apparatus, that his lectures should be attractive, lucid and instructive, and as such they were appreciated by the hundreds of medical men and students who filled his class room.

Dr. Arnold died at Sewanee, Tennessee, on October 20th, 1888. He leaves surviving him his widow and two daughters. His mortal remains were brought to New York and were interred in the family plot in Greenwood Cemetery, Brooklyn.

CITRIC ACID IN MILK.--Professor Soxhlet, a French chemist, has demonstrated that cow's milk naturally contains citric acid in an almost constant proportion of one gramme to every litre. A good animal yields, therefore, at a single milking, as much of this acid as is contained in two or three lemons, and the annual aggregate throughout an extensive dairying neighborhood must be something enormous. It occurs in the form of a calcareous salt.—*Druggist's Circular and Chemical Gazette.*

NOTES.

TRUSTEEING DRUNKARDS.—The German Medical Congress has recommended that drunkenness be recognized as a reason for placing a person under trustees.—*Medical Record.*

TREATMENT OF IRIDO-CYSTITIS.—Dr. Scöler, in addressing the Berlin Medical Society on the subject of irido-cystitis, cited several cases in which he had obtained rapid cure by injections of a solution (one to two) of salicylate of soda into the vitreous humor of the eye. The amount injected was only one division of a Pravaz syringe. The result was most gratifying in every case. The hypopyon quickly disappeared in every case. In one case slight pain followed the injection; this, however, was only temporary. Injections of a two per cent. solution of carbolic acid were also tried in similar cases, but gave negative results.—*Deutsche med. Woch.*

PAIN IN THE CICATRIX OF A DOG BITE IN PECULIAR CIRCUMSTANCES.—A patient called our attention to a very distressing peculiarity. Many years ago, when a child, she was bitten by a dog. No ill effects ensued until she commenced bearing children. During her confinements she usually has after pains, for which doses of morphine are administered. She has also a more intense pain at the site of the dog-bite, for which the doses of morphine administered for after pains are ineffectual, and it is only after larger doses of narcotics are given, repeated at short intsrvals, that the pain is overcome. There are no symptoms referable to the old bite at any other time. Can it be possible that there is any virus remaining in a dormant state in this old wound during all these years?

PILOCARPINE IN DEAFNESS.—Dr. George P. Field has given some successful experiences in the use of pilocarpine in deafness. He says it does no good in cases of progressive deafness of old age, or that every patient taken haphazard is relieved by it, but in some cases it has done much good. It was first suggested by Professor Politzer. In doses of from $\frac{1}{8}$ to $\frac{1}{6}$ of a grain hypodermically at bedtime for six weeks. One physician, who thought he would be compelled to give up his practice because of deafness, expresses himself as being very thankful for restoration by use of it as above. Dr.

McNaughton Jones calls attention of the readers of the *British Medical Journal* to the fact that he announced the employment of pilocarpine after Politzer's experience in those cases where labarynthine effusions are threatened. He employed it in 1879 for labarynthine vertigo, and since, with some successes and some failures. As a reducer of hypertension and effusion, especially in ocular hypertension and effusion, when given in subcutaneoas cases, it stands unequalled.

PHYSICAL AND MENTAL CHANGES AFTER REMOVAL OF OVARIES OR UTERUS.—Dr. Glävecke, of Kiel, lately pulished a paper in the *Archiv f. Gynäkol.* on this subject. According to this author, the changes usually met with were those observed at the menopause. Menstruation permanently ceased immediately or shortly after the operation of removal in eighty-eight per cent. of the cases. In the remainder it was less frequent and more scanty. Practically no vicarious menstruation was observed. Menstrual molimina were observed in thirty per cent. In the time between the periods the familiar characteristic disturbances were observed—hot flushes, perspiration and faintness. He looks upon them as disturbances of the vaso motor system, in consequence of the cessation of the ovarian function, an observation, by the way, that does not throw much light on the subject. He does not remark the very long continuance of this most uncomfortable condition in many of the cases—four and five years. In four cases out of a total of forty-three, palpitation and headache came on, in one nausea, coming on several times a day, in another vomiting, in one diarrhœa, in one acne of the face lastsng over a year, and in two increasing weakness of intellect. Atrophy of the internal genitals was a consequence of the operation. In twenty-three cases in which the operation was performed for myoma uteri, distinct shrinking took place in the tumors in ninety per cent. In forty-two per cent. of the cases a distinct increase in weight, due to deposit of fat, was observed. Sexual desire was unchanged after removal of ovaries in only a few women. Both desire and pleasure were much diminished, but not in the same proportion in all cases. As regarded the psychical condition, almost always a depressed, low-spirited condition was remarked. Many women became melancholic, others showed a changeable and petulant disposition. Actual psychoses developed in three cases; two recovered in the course of a year, the third was incurable. The changes were different when the uterus was extirpated. Menstruation ceased, and no vicarious menstruation followed. Out of thirteen cases of total extirpation of the uterus strong molimina were observed in nine. If the ovaries were not removed atrophy of the external genitals did not take place. But little increase of weight took place after extirpation of the uterus. Sexual matters were almost unchanged, a slight diminution of sexual pleasure was acknowledged in a few cases. Psychically no change was observed in one half of the cases; in more than a third a melancholy so great as to constitute a psychosis was observed. On the whole, the bodily and mental changes after castration were much greater than after extirpation of the uterus.—*Medical Press.*

TREATMENT OF PRURITICAL AFFECTIONS WITH MENTHOL.—The analgesic properties of menthol render it valuable in diminishing the pain in pruritic affections, notably of senile pruritis, the pruritis of eczema, of itch, and also of urticaria. For this purpose the drug may be either prescribed as a tincture, a liniment or a salve.

1. Tincture or spirits of menthol:

℞.—Menthol	1 to 3 parts.
Alcohol (at 104° F.)	56 to 60 " —M.

Sig.—For external application to the affected parts.

2. Menthol liniment:

℞.—Menthol	3 parts.
Olive oil	30 "
Lanolin	30 " —M.

The action of this preparation is most efficient.

3.—Menthol salve:

℞.—Menthol	grs. xxxix.
Balsam of Peru	f ʒ jss.
Lanolin	℥ jv.—M.

—*Medical News.*

ECZEMA FROM CREOLIN.—On account of its having very little toxic action, Dr. Wackez used creolin as a dressing for wounds in children. Of 17 cases, in which there were slight wounds, 10 healed by first intention, while 7 speedily developed a local eczema. On the second day of treatment with creolin the vicinity of the wound was much reddened; on the third day small and large blisters appeared. The temperature was increased, and the neighboring glands were enlarged, the patients suffered from anorexia, headache, and sometimes vomiting. In order to decide whether these appearances were due to the creolin, or whether some of the other antiseptics might cause the same symptoms, an experiment was tried on a boy, six years old, who had fallen in the street, and had slight wounds on both hands. The abrasions of the right hand were treated with a creolin solution of 1 to 1000; those of the left hand with a 1 to 1000 of corrosive sublimate solution. On the third day an eczema appeared on the right hand; while on the left hand there was no trace of redness. The left hand was then treated with a three per cent. carbolic solution, while the creolin solution was continued on the right hand; on the next day the left hand showed nothing out of the way, while the epidermis of the whole palm of the right hand was covered with blisters. After opening the vesicles on the right hand the creolin was omitted, and the wounds were dressed with an ointment. The creolin solution was now applied to the left hand, and after three days ten small blisters appeared, which burst, and the epidermis came off about two days later.—*Therapeutisch. Monatshefte.*

TURPENTINE IN POST-PARTUM HEMORRHAGE.—A correspondent of the *Lancet* says: "For years I have used spirits of turpentine in post partum hemorrhage, and, in every case, with the best results. When the ordinary means, i. e., friction over the uterus, irritation of the uterus by introduction of the fingers, cold, hypodermic injections of ergotine, etc., failed, by saturating a piece of lint with the turpentine, and introducing it with my hand into the uterus and holding it against the walls, rapid contraction took place, and all hemorrhage instantly ceased. In one or two cases, when the patient was almost pulseless, it seemed to act as a stimulant. On no occasion did its action fail, nor did it cause the slightest inconvenience, except in one, when the side of the patient's thigh was slightly blistered by some that came in contact with it, but it gave very little annoyance. I consider it to be much quicker and safer in its action than any other remedy; it does not cause any injurious result, and, besides, it is much more easily applied. In country practice, getting hot water, or using injections often entails loss of valuable time."—*Practice.*

SUCCUS ALTERANS.

(McDADE.)

SUCCUS ALTERANS is a purely vegetable compound of the preserved juices of Stillingia Sylvatica, Lappa Minor, Phytolacca Decandra, Smilax Sarsaparilia and Xanthoxylum Caroliuianum, as collected by DR. GEO. W. McDADE exclusively for ELI LILLY & Co., and endorsed by DR. J. MARION SIMS.

SUCCUS ALTERANS continues to gain favor from its remarkable Alterative and Tonic properties, *eliminating specific poison from the blood* and *increasing the proportion of red corpuscles in anœmic patients* to a wonderful degree; is endorsed by the medical profession and in use by many hospitals of note.

SUCCUS ALTERANS in venereal and cutaneous diseases is fast supplanting Mercury, the Iodides and Arsenic; and is a certain remedy for Mercurialization, Iodism and the dreadful effects often following the use of Arsenic in skin diseases.

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SUCCUS ALTERANS is giving satisfactory results in treatment of *Chronic Rheumatism* and can be used with confidence.

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SUCCUS ALTERANS is put up in pint round amber bottles and *never in bulk*.

PHYSICIANS who have not received DR. McDADE's latest publication, the MONOGRAPHIA SYPHILITICA, should send their address, mentioning this journal, and we will mail a copy. It contains a paper, illustrated with colored plates, by DR. D. H. GOODWILLIE, of New York, on the "Sequelæ of Syphilis," reports of cases in practice and many other valuable papers.

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Damiana cum Phosphoro et Nuce Vomicæ.

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Cocaine Tablets.	IF you use Cocaine you must know the advantage of being able to prepare readily a fresh solution of any desired strength. This can be done instantaneously by our soluble Cocaine Muriate Tablets, 2¼ and 1⅛ grains, put up in vials of 12 and bottles of 100, with directions as to how many tablets to use in making solutions of desired strength. You will find them very convenient.
Chloranodyne and Coto Bark.	YOU no doubt employ when indicated in summer diarrhoea, anodynes and astringents. We would commend to you for trial two eligible ones which we make, and which have been used with much success. We refer to Chloranodyne, an efficient combination of anodynes and antispasmodics, and fluid extract Coto Bark, the valuable astringent properties of which render it of great service in restoring tone to the relaxed mucous membrane, and in checking the excessive discharge.
Pepsinum Purum Tablets, Sugar-Coated, 1 gr.	THESE Tablets afford a very convenient and ready method for the administration of Pepsin. In this form Pepsin suffers no loss in peptic or digestive power with an insoluble salt of bismuth, such as the subnitrate. When combined with bismuth and ammonium citrate, in mildly alkaline solutions, the activity of the Pepsin is entirely destroyed, and acidification fails to restore its lost energy.
Lactated Pepsin Tablets.	EACH Tablet contains Pepsinum Purum 3-10 grain, Pure Pancreatin, 3-10 grain, Lactic Acid, Hydrochloric Acid, Maltose and Diastase.
Peptonizing Tablets.	USED for preparing peptonized milk, gruel and beef tea.
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Glycerin Suppositories. 95 per cent Glycerin.	THIS ready means of securing defecation is likely to become very popular. It is a great improvement over the injection of the glycerin, and quite as efficacious. To those physicians who have not employed them, we commend their early trial, and to this end we will furnish samples free on request. In prescribing, we ask physicians who desire to use a reliable, active product to specify glycerin suppositories of our manufacture.

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DETROIT AND NEW YO

Meeting of the International Medical Congress.—We, the undersigned, do hereby give notice that, according to the resolution passed at the Washington meeting, September 9th, 1887, the 10th International Medical Congress will be held in Berlin. The Congress will be opened on the 4th and closed on the 9th day of August, 1890. Detailed information as to the order of proceedings will be issued after the meeting of the delegates of the German Medical Faculties and Medical Societies at Heidelberg on the 17th of September in the current year. Meanwhile, we should feel sincerely obliged if you would kindly make this communication known among your medical circles and add in the same time our cordial invitation to the Congress.

von Bergmann,
Virchow.
Waldeyer.

Therapeutics of Rheumatism in Children.—Dr. William H. Thompson said that many years ago his attention had been drawn to the ætiology of rheumatism, he being then a medical student in Syria, and hearing from his father (then engaged in explorations) what seemed to him paradoxical statements relative to the prevalence of rheumatism among the Arabs of the desert. He had heard that acute rheumatism was as common a disease among the Arabs in the arid country south of Palestine as among the fishermen of Norway and Scotland. He had asked himself then and since what reason there should be for the appearance of a disease either identical or similar among peoples living under apparently opposite conditions of life, in respect to weather—that is, in climates presenting the extremes of warmth and dryness and a never-clouded sky, on the one hand, and incessant fog, rain and chilly winds on the other hand. He had become satisfied that the cause of rheumatism in either case must be a common one, but not the same as the cause of gout, for gout was nowhere to be met with in Mohammedan countries, unless in the few sections where alcohol was used (as in parts of India, where a drink made from fermented rice was drunk); at least it was very rare. It was safe to premise that rheumatism, so far as climate was concerned in its causation, was connected with changes in temperature, while gout was the outcome of excesses in the diet and in the use of fermented liquors. What, then, was there in common in the conditions of the life of a man living in a tent in a burning climate, never having enough water, and a fisherman on the shore of the Baltic, drenched with water most of the time? He would answer, Chilling of the skin when moist. This might occur as well in the deserts of Syria as in lands covered with fog half the year round. In the desert there was great heat during the day, the sand became heated as if in an oven, and when a party of travelers lay down to sleep, some time after sundown, on this warm sand, they were in a profuse perspiration, and naturally provided themselves with little in the way of coverings. But the sand radiated its heat very rapidly into the cloudless sky, and before sunrise bitter cold would succeed the heat of the evening. Consequently the wet skins of the uncovered sleepers became badly chilled; and that rheumatism should follow such exposure was most natural. He had heard his father say that he had never suffered more from cold than just before dawn at the base of Mount Sinai. No one should attempt to diagnosticate the early stage of rheumatism by an examination of its articular habitat, a joint. A swelling in a joint might be due to gout, trauma, gonorrhœa, or rheumatism; the symptoms in the joint were the same in each case, and so many mistakes were made. Examine the pulse, and no one familiar with the contrast presented by rheumatism and gout in this respect should fail to determine whether it was rheumatism which the patient had in the joint, or gout affecting the heart and arteries. In scarlatinal rheumatism the pulse was often hard, and there was often much uric acid present in the blood and urine; sometimes there was a formation of pus and true textural changes, which were absent in simple rheumatism, and often pyæmia was developed. He was inclined to believe in the existence of some yet unknown function of the skin connected with respiration in its widest sense; he thought that a failure of skin-action of some sort was a means of causing the accumulation in the body of the matters which were morbific of rheumatism. Quinsy and acute articular rheumatism were sometimes associated, the latter following the appearance of the former. In the genesis of rheumatism there was usually a chilling of the skin, so naturally the warm bath acted as an anæsthetic; moreover, any bath rendered the urine alkaline—even a vinegar bath. Flannel had a peculiar usefulness from first to last. Oily inunctions, and especially inunctions of cod-liver oil, were advisable for the same reasons. This oil had first been introduced as a remedy for chronic rheumatism, and he himself placed great reliance on its effects, both externally and internally. As to the connection between rheumatism and endocarditis in children, he fully concurred in Dr. Jacobi's warning lest it might be overlooked. Endocarditis, he wished to state emphatically, might occur with only the most insignificant indications of rheumatism. He had recently seen a fine boy suffering from only a moderate attack of arthritis with the temperature between 99° and 100°, or else normal; the disease had been contracted by sitting on the ground while watching a game of ball. In spite of all he could do, endocarditis had come on in thirty-six hours, and it would probably leave him with a permanently crippled heart. To prevent injuries to the heart in children, contracted in this way, we must be on the lookout for the preceding rheumatism, and especially if chorea appeared, which was the normal order in the development of rheumatism in children, the articular affection coming subsequently. He dreaded "growing pains," and put a child on the use of cod-liver oil at once when they were complained of. As prophylactic measures he would advise the application of suitable oils to the skin and the wearing of flannel both summer and winter. As regarded the therapeutics proper to a case of endocarditis, he had no faith in the power of salicylic acid, either in treatment or prevention; it was useful in articular disorders, not where the heart was involved. Antipyrine or phenacetine was preferable. But, it might be asked, Why should the heart have this peculiar liability to develop severe lesions during an attack of rheumatism? When rheumatism invaded other parts and structures in the body, it did not produce such injuries, or anything like as severe ones. If we found a joint in a state of redness, pain and swelling, such as rheumatism produced, we should say the prognosis was bad unless the attack proved to be rheumatic, for in that case the symptoms would pass away. If such a joint was examined just after death, it presented few indications, or, perhaps, none whatever, of the inflammatory process recently so active in it, whereas the heart did present permanent structural lesions. The explanation of this difference could be derived from a consideration of the unresting nature of the heart, and the necessarily intensified action of the rheumatic poison on the wall of a serous cavity subjected to such constant mechanical strain. If a man having rheumatism in his knee should kick a hundred and forty times in a minute, he would probably cause the development of structural changes which would remain for life; consequently, the importance of compelling the heart to beat slowly. In children the heart-beat was much more rapid than in adults; and, correspondingly, heart complications in rheumatism were more likely to be developed. He therefore recommended full doses of aconite, and not of digitalis. Aconite allayed the irritability of the heart; also alkalies were to be given; and finally the utmost care exercised to protect the chest, so that no chilling of the sensitive cutaneous nerves should occur; especially should the chest area overlying the heart never be bared of covering.—*New York Medical Journal.*

Death of Alexander Mott, M.D.—Dr. Alexander B. Mott, the fourth son of the late Dr. Valentine Mott, died at his country-seat, at Yonkers, on the 12th of August. The cause of death was pneumonia, and he was ill only two days. He was born in the city of New York, March 21, 1826. A considerable portion of his boyhood and youth was spent in Europe, but he returned to this country to begin the study of medicine in his father's office. He attended lectures successively at the University Medical School, New York, Castleton, Vt., and the New York Medical College; and in 1850 he was appointed Surgeon to the New York Dispensary. His first hospital appointment was at St. Vincent's Hospital, of which he was one of the founders, and he was Surgeon to Charity Hospital for fourteen years. In 1857 he received the degree of M.D. from the University of Pennsylvania.—*Boston Medical and Surgical Journal.*

The Treatment of Ozena with Glycerine.—At a recent meeting of the Society of Military Surgeons in Vienna, Dr. Sidlo stronly recommended the treatment of ozena with glycerine. His method consists in daily washing out the nasal cavity with a two per cent. solution of potassium, to which ten per cent. of glycerine has been added. This is followed up with the insertion of rolls of cotton soaked in a mixture of one part of glycerine and three parts of water, the tampons being allowed to remain in place for an hour at a time. Using this method, he claims good success in the management of ozena. The method requires some weeks to effect a cure; but no one who has treated ozena often will think a few weeks too long to devote to any method which is likely to be successful. The one proposed by Dr. Sidlo is so simple, and apparently so rational, that it certainly seems worthy of further trial, and if other medical men can cure such cases as he has cured in this way, it will be a very useful addition to our therapeutic resources.—*Medical and Surgical Reporter.*

THE MAYBRICK CASE.—The following is the opinion of Arthur Pearson Luff, M.B., B.Sc.Lond., Lecturer in Medical Jurisprudence and Toxicology, St. Mary's Hospital: "A careful analysis of the evidence given in this *cause célèbre* can leave little doubt but that the verdict is a just one. It appears that about the middle of April of this year Mrs. Maybrick purchased some fly-papers, since proved to contain arsenic, and of which it is known she prepared an aqueous extract. On April 27th the deceased was seized with vomiting, which came on after taking tea. On April 28th he still suffered from vomiting, with foulness of the tongue, and also complained of stiffness in the lower limbs. On May 1st deceased partook of some luncheon, consisting of a preparation of revalenta arabica, which preparation had been brought to his office by his brother, who had received it from Mrs. Maybrick, and after partaking of it he complained that he did not feel well. On May 3d he was sick twice after returning home. On May 4th he complained of a tickling sensation in the throat, accompanied with retching. Between May 4th and 6th he took, by order of his medical attendant, part of a mixture containing a small quantity of Fowler's solution (the whole quantity contained only 1-250th of a grain of arsenic, and a portion of this medicine was thrown away unused by the medical attendant on May 6th). On May 7th deceased was still suffering from vomiting, diarrhœa was just appearing, and the throat was dry and acutely inflamed. On May 8th he was suffering from diarrhœa, with considerably straining. On May 9th distressing tenesmus was present. On May 10th the tenesmus was better, but not absent, and the patient was sinking. On May 11th he died. The post-mortem exemination indicated acute gastro-intestinal irritation. The chemical analysis showed the presence of arsenic in the intestines, liver, kidneys and spleen, but none was found in the stomach and pelvic bone. The symptoms preceding death, the post-mortem appearances, and the results of the chemical analysis clearly indicate that death was due to arsenical poisoning. For the defence, stress was laid on the fact that petechiæ were absent from the mucous membrane of the stomach; this absence is explained by the fact that in all probability the arsenic was taken in solution, and also by the fact that all arsenic had passed away from the stomach by absorption, by passage into the intestines, and by vomiting. Three bottles containing a quantity of arsenic, both in the solid state and in solution, were found in the house, together with a package consisting of arsenic and charcoal. Arsenic was also found in a bottle of medicine in which it was not prescribed, and traces were found in a pocket of Mrs. Maybrick's dressing-gown, and on a handkerchief bearing Mrs. Maybrick's name contained in this pocket. Arsenic was found in solution in a bottle of Valentin's meat-juice, which had been seen in Mrs. Maybrick's possession under somewhat suspicious circumstances. The prisoner in her statement admitted that she had put arsenic in the form of a powder into this bottle at her husband's request, but the fact of its being found in the bottle in a state of solution points strongly to the inaccuracy of the prisoner's statement. It is strange that the counsel for the defence did not call evidence in support of her statement that she had been accustomed for years to use arsenic as a face-wash, since on her own declaration this was known to 'many young friends in Germany, and to her mother for many years.' The defence endeavored to show (*a*) that the arsenic present in the body was the result of a habit of taking arsenic acquired years before by the deceased in America, although no recent evidence as to the purchase or taking of arsenic by the deceased was produced; (*b*) that the cause of death was from gastro-enteritis induced by something other than arsenic. Bad sausages, fish and cheese were mentioned in evidence as possible inducing agents of such irritation, but no evidence was produced that the deceased had partaken of any of these things; the only positive suggestion that was made was that the gastro-enteritis was produced by catching cold, a most improbable result under the circumstances.—*British Medical Journal.*

GIVE THEM MUSTARD BEFORE YOU GIVE THEM CHLOROFORM, AND SOMETHING ELSE ABOUT MUSTARD.—One of our friends who is doing some very good capital surgery among the negroes, at a financial outgo to him of all the way from $5 to $10, for surgical appliances and dressings, is also taking some lessons in the character of the darkey. He always directs that they shall eat no breakfast, and, satisfied with their affirmative answer, he puts them on the table, to find that as he gets well into his operation he has to wait until vomiting has ceased--the process always revealing a pretty full stomach. He thinks he will settle the matter hereafter by giving a dose of mustard and water preliminary to the administration of the anæsthetic. *A propos* to the administration of mustard as an emetic, the writer saw a woman patient, a few days ago, to whom was administered mustard as an emetic in attempted laudanum poisoning. It acted promptly and efficiently, but the young physician whose case it was, was greatly amused that, even in the midst of the vomiting, the patient was complaining of hunger, and when we left the house we left the patient safe from the danger of the narcotic, with the shanty redolent with the smell of frying meat, a-cooking for the would be suicide.

POST-GRADUATE INSTRUCTION began in St. Louis, at once initiated in New York, very tardily in Philadelphia and elsewhere, has at last reached staid old London, so we take back all we had to say in opposition to it some years ago. There is nothing more advantageous to the hard-working doctor than a post-graduate course at the right place, and in saying this we do not except a good medical journal.

LEPROSY IN THE UNITED STATLS.—The President of the Board of Health of California, in making enquiry into the number of cases of this dread disease in the United States. We trust that the result of his enquiries will be towards the complete isolation of every case, by pressing the question home to the public. It is all well enough for ambitious dematologists to gather up cases, in order to show the novelty to wondering students, as far as effect is concerned, but it is imperilling the country, it is true, in an unknown degree, but certainly in some degree, and the firm hand of the law ought to be laid on all such rash procedures.

RUNNING RANGE—RUNNING REINS.—Nich: Culpepper, in his "English Physitian Enlarged," etc., 1653, answers a question which we were unable to make to a friend and enquirer: What do the negroes mean by "running range?" We always had dimly associated the term in the usual jocular way with a gonorrhœa by another name, but very aptly ascribed to a "running of the range." It seems, though, that this was fanciful and old, and as sharp a charlatan as New York or Chicago could boast of to this day, speaks of "running of the reins," or gonorrhœa. The pathology involved in this nomenclature may be surmised. But how the darkeys got hold of this phrase, behind which they seek to cover their virtuous condition, remains unexplained.

The filthy stuff which the suggestion of Dr. Brown-Sequard has drawn forth from the secular press, is humiliating in the extreme, but serves as a good index for those who have not already thought upon the matter, to determine what newspapers are fit to come into the household. What with advertisements of cures for dysmenorrhœa, spermatorrhœa, and prurient nastiness of all sorts from police courts and elsewhere, it is evident that the selection of a clean newspaper would puzzle most any parent.

Centennial Catalogue of the University of North Carolina.—This is considerably more than an ordinary catalogue: In addition to the lists of names of officers and students (1789–1889), it contains an interesting and valuable historical sketch, covering 63 pages, by President Battle, with 11 full-page plates. The catalogue proper gives, very concisely, the leading facts in the life of each student, graduate and non-graduate, so far as these facts could be ascertained by the compiler, Mrs. C. P. Spencer, who has done her work with rare skill. It is an array of famous names such as institutions in the United States can produce—names of men who have brought fame to North Carolina and the whole country, as well as to their Alma Mater at Chapel Hill. The catalogue is really a good-sized book of 250 pages, and is by far the handsomest publication of the kind that we have seen. The Bursar of the University, Major W. T. Patterson, will forward a copy on receipt of 50 cents.

"Homœopathy has also profited, and is still profiting, wherever the English language is spoken, by an accidental misleading resemblance of the term hmoœ to the precious word home—'Home, sweet hIme.' To you as a physician the term homœopath naturally signifies a person who practices a certain dogmatic and visionary system. But to many of the laity, on the contrary, the first two syllables of the word suggest that he practices a simple *home* or domestic system of medicine, and the fact that he ordinarily prepares his own globules, solutions, etc., either at his own home or at the homes of those who employ him, instead of sending prescriptions to drug stores, as we do, add strength to this popular error."—CATHELL, *in The Physician Himself.*

DR. E. J. OVEREND (*Pacific Med. Journal*) states that his personal experience with caffeine in sick headache, after a large experience with other drugs, is that it is almost as much a specific in that disease as quinine in intermittent fever. He is especially enthusiastic in regard to its prophylactic powers in doses of two to five grains, hourly, in capsules.—*College and Clinical Record.*

TREATMENT OF ECZEMA.—The great desideratum is the appropriate external treatment. Dr. Mackintosh gives the following as an ointment which in most cases pretty nearly approaches the character of a specific :

℞.—Bismuthi subnitratis, ʒ iv.
Zinci oxidi, ʒ i.
Acidi carbolici liquidi, ʒ ss.
Vaselini albi, ℥ ii.
Ft. ung.

Or

℞.—Bismuthi subnitratis, ʒ ii.
Zinci oxidi, ʒ ss.
Glycerini (Price's), ʒ iss.
Acidi carbolici liquidi, ♏ xx.
Vaselini albi, ʒ vi.
Ft. ung.

The latter ointment mixes into a beautiful enamel-like cream, which is cooling, and acts as a balm to the irritable skin.

When constant tingling and irritation disturb the patient's rest at night, this lotion is said to be invaluable :

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Sig.—Shake up, and apply with a camels-hair pencil.

BOOKS AND PAMPHLETS RECEIVED.

Prospectus of the St. Louis, Mo., College of Pharmacy.

Twelfth Report of the State Board of Health of Wisconsin.

Hog Cholera, by the Bureau of Animal Industry, Washington, D. C., 1888.

Wood's Medical and Surgical Monographs. Vol. III., No. 2, August, 1889.

The Annual Report of the Department for the Insane of the Pennsylvania Hospital.

Boston University School of Medicine. Seventeenth Annual Announcement and Catalogue, July, 1889.

The Physician Himself, by D. W. Cathell, M.D., published by F. A. Davis, Philadelphia. Price $2.00. Pp. 298.

Transactions of the Southern Surgical and Gynecological Association. Vol. I. Session of 1888. Birmingham, December 4 to 6th.

Experience in the Treatment of Trachoma, by A. E. Prince, M.D., Jacksonville, Ill. Read at the meeting of the Illinois State Medical Society, at Jacksonville, Ill., May 23 to 25, 1889.

Annual of the Universal Medical Sciences, Five Volumes. Issue of 1888. Edited by Charles E. Sajous, M.D., and Society Associate Editors. Published by F. A. Davis, Philadelphia.

University of Pennsylvania Catalogue for Session of 1888–'89, and Announcement for Session ot 1889–'90. One Hundred and Twenty-fourth Annual Session. Department of Medicine.

Pathology and Treatment of Alopecia Areata, by A. R. Robinson, M.B., L.R.C.P., and S. (Edin.). Reprinted from the "Transactions of the Ninth International Medical Congress." Vol. IV.

Annual Catalogue and Announcement, with an account of the new buildings of the College of Physicians and Surgeons in the city of New York, Medical Department of Columbia College.

Baltimore University, School of Medicine, Annual Announcement, Session of 1889–'90.

The Proceedings of the Sixth Annual Meeting of the Ohio State Sanitary Association, held at Canton, November 14–15, 1888.

On Spasmodic Urethral Stricture from Anal Fissure, by L. Bolton Bangs, M.D., Surgeon to St. Lucas and Charity Hospital, N. Y.

Circular for Session of 1890 of the Central University of Kentucky, Medical Department Hospital College of Medicine, Louisville, Ky.

The Question of Interfering with the Abscesses of Hip Disease, by A. B. Judson, M.D., Out-Patient Department of the New York Hospital.

On the Value of Frequently Repeated Doses of Arsenic in the Treatment of Bullous Diseases of the Skin, especially in Children, by L. Duncan Bulkley, A.M., M.D., New York.

Pelvis and Abdominal Drainage, by David Prince, M.D., of Jacksonville, Ill. Reprint from the Transactions of the American Surgical Association of 1888, and from the Annals of Gynecology, December, 1888.

Is More Conservatism Desirable in the Treatment of the Joint Diseases of Children ? by A. B. Judson, M.D., Orthopedic Surgeon to the Out-Patient Department of the New York Hospital. Reprint from the *Medical Record*, May 18, 1889.

The Heating and Ventilation of the Mansfield, Ohio, Schools and Churches, by R. Harvey Reed, M.D., Secretary, Ohio State Sanitary Association. Reprint from "The Journal of the American Medical Association." April 6, 1889. A Lecture delivered before the Mansfield Lyceum, February 13, 1889.

The Sewerage ef Cities and Towns. Reprint from North Carolina Board of Health Report, 1888, and How Can we Best Economically Dispose of the Refuse of Our Towns. Regrint from Proceedings of North Carolina Sanitary Association, meeting of February 6–7, 1889. Raleigh, by J. L. Ludlow, C.E., M.S., C.E. to North Carolina Board of Health, Winston, N. C.

READING NOTICES.

Chronic Pulmonary Catarrh.—J. S. Swain, L.K.Q.C,P. and L.R.C.S., 37 Park Lane Terrace, London, England, says: "I have used S. H. Kennedy's Extract of Pinus Canadensis in the following case: Mr. C., aged about 35, suffering from chronic pulmonary catarrh, with pain in left side and great expectoration, cough paroxysmal and lasting some minutes; gave Extract Pinus Canadensis internally; after second bottle the expectoration was less, pain in side left, and felt more in throat, and he coughs less, and feels better in himself.

Messrs. Reed & Carnrick:—*Gentlemen:*—In recognition of the courtesy shown us by your invitation to visit your laboratory at Goshen and personally observe the several successive steps in the process of preparing your *Soluble Food*, we desire to express our thanks. We were very forcibly impressed with the precaution exercised in obtaining practically sterilized and partly digested milk, and the absolute cleanliness observed throughout the entire process. We unhesitatingly endorse your *Soluble Food*, and shall continue prescribing it for our babies: Edward Molitor, M.D., Somonauk, Ill.; J. Gill. Allan, M.D., Shelbyville, Ky.; J. D. Herrmann, M.D., Eastman, Ga.; S. T. Turner, M.D., El Paso, Tex.; J. I. McConnell, M.D., Chattanooga, Tenn.; J. C. B. Justice, M.D., Asheville, N. C.; B. Z. Henslee, M.D., Dickson, Tenn.; W. G. Ferguson, M.D., Hughesville, Mo.; J. H. McDuffee, M.D.; Keyser, N. C.; W. H. Hudson, M.D., La Fayette, Ala.—*N. Y. Polyclinic School.*

There is no other exhibit of the class in the United States section to rival that of Wm. R. Warner & Co. From the globe-advertising Philadelphia merchant comes an exhibit which the native pharmaciens can look at with both admiration and wonderment. The display is enough to make any Frenchman curious, and their arrangement such as to be above deprecatory criticism; and those Frenchmen there could not be a people with better taste for the proper and harmonious exhibition of products. A glance through their own magnificent section of pharmacy will verify this. Readers would find superfluous a description in detail of the Messrs. Warner's essentially fine installation covering all their soluble sugar-coated pills, salts, etc. Suffice it to remark that at the Paris Universelle their exhibit is thoroughly representative, comprises all the makers' fabrications, and is decidedly an honor to the concern.—*Pharmaceutical Record.*

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CONTENTS:

ORIGINAL COMMUNICATIONS:

A Case of Cæsarean Section. By J. M. Hays, M. D., Oxford, N. C. 161
Clinical Remarks on a Gangrenous Lipoma Operation—Reported by Dr. W. O. Nisbet, Charleston, S. C. 172
Supra-Pubic Cystotomy for Artificial Urethra in Prostatic Obstruction and False Passage. By W. W. Lane, M. D., Wilmington, N. C. 175
Deafness—Its Causes and Prevention, from a Rational Standpoint. By J. M. Hays, M. D., Oxford, N. C. 179

SELECTED PAPERS:

Nitro-Glycerin—A Substitute for Alcohol in cases of Emergency. By Joseph B. Burroughs, M. D. 193
Salol in the Gastro-Intestinal Derangement of Children. By Walter Lester Carr, M. D. 198
On the Rapid Curative Treatment of Cystitis in Women. By Thomas More Madden, M. D. 202

EDITORIAL:

A Great Step forward in the Progress of Medical Education, Inaugurated by New Pork State 208
The Future Service in our Asylums for the Insane 209
American Public Health Association in Brooklyn, and a Suggestion for Next Year..... 211
Seasonal Notes on Typhoid Fever—Acetanilide 212
Southern Surgical and Gynecological Association 214

REVIEWS AND BOOK NOTICES:

Inebrity—Its Etiology, Pathology, Treatment and Jurisprudence. By Norman Kerr, M. D., F.L.S. 215
"The Physician Himself." By D. W. Cathell, M. D. 216
Public Health Papers and Reports. Vol. XIV. Ameritan Public Health Association, November 1888 217
Wood's Medical and Surgical Monographs 219

URRENT LITERATURE:

The use of [Oil of] Turpentine and Scraping in Unhealthy Wounds 220
A case of Rattlesnake Bite, Seen Ten Minutes after the Accident—Recovery 225

URRENT NOTES:

For Ringworm; Worldly Wisdom; The Maximum Dose of New Remedies; Conclusions as to the Best Agents for Sterlizing Feces; Therapeutic Action of Senna Pods; Editor of the British Medical Journal on Dr. T. K. Chambers; Chloramide as an Hypnotic; The Doctor's Portrait; New Method of Detecting the Impurities in Water; A Case of Inoculated Lebrosy; Salol; Peroxide of Hydrogen; A Compound Liquorice Powder; Chloramid, a New Hypnotic; Antipyrin in Diabetes; Digestive Tablets; Poisoning from Calla Lilly; Medical Branch State University of Texas]; Nutmeg Poisoning; The Administration of Cod Liver Oil; The Congress of American Physicians and Surgeons 227–235
Therapeutic Notes of some of the Newer Medicaments 236
Books and Pamphlets Received 240

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THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } **Editors.**

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ORIGINAL COMMUNICATIONS.

A CASE OF CÆSAREAN SECTION.

By J. M. Hays, M.D., Oxford, N. C.

On Friday, June 28th, I performed Cæsarean Section on Tishy Curtis, a negro woman æt. 34, living in the country, about nine miles distant from this place.

History.—She had previously been delivered of four dead children. My esteemed friend, Dr. J. W. Booth, has furnished me with the following facts in regard to these labors:

Tally-Ho, N. C., July 9, 1889.

Dear Doctor:—Yours of yesterday to hand. I am acquainted with Tishy's family from her grand-parents on both sides. There has been no mental derangement on either side. Tuberculosis in her father's family. In her first labor the breech presented; it was a small child, and I delivered it with difficulty by traction on the body—dead. In fact, the body was born before I arrived. In her second labor the breech, or shoulder (I forget which), presented; but after pulling the head off the latter was delivered with very great difficulty. Whether it was perforated or not, I forget. In the third labor the deformity at the promontory of the sacrum had increased so much that the head had to be perforated, which was done by Dr. S. D. Booth. The shoulder presented in the fourth labor. After I had turned the child, Dr. S. D. Booth got the blunt hook in the mouth and made traction on the hook, while I drew on the body. Thus we delivered it, the promontory of the sacrum cutting or mashing its way through the skull. It seemed like barbarous midwifery, but I don't see how we could have done better, and she did well after it.

Tishy did not walk till she was five years old.

Yours very truly, J. W. B.

I will state here that the patient had been instructed after each of her confinements that any subsequent labor would endanger her own life and be almost sure death to the child. She had also been urged to notify her physician, should she become pregnant, so that he might induce premature labor—say at the seventh month. These instructions, however, were disregarded, and Dr. J. W. Booth, her family physician, was not informed that she was pregnant until a few weeks before this confinement. He then notified his brother, Dr. S. D. Booth, and myself, that he wished us to perform the Cæsarean section, as he was not willing to kill any more of her children. We urged that the operation be done a few days before her expected labor, but this was refused by the patient and her husband.

Upon the outset of the labor Drs. J. W. and T. L. Booth were sent for. Upon their arrival the os was found to be dilated. They at once telegraphed for Dr. S. D. Booth and myself, and we proceeded to the place without delay, Mr. L. B. Grandy, a student of the College of Physicians and Surgeons, New York, accompanying us. We arrived at the house about noon, and ascertained that labor had been in progress since about 5 o'clock, a. m. The bag of waters had broken about an hour previous to our arrival, and strong labor pains were now following each other at intervals of a few minutes.

The patient was given a hypodermic of morph. sulph., gr. ¼, and a rectal injection of Viburn. Prunif., ʒ j, chloral hydrate, ʒ ss. An examination revealed the fact that there was considerable shortening of the conjugate diameter of the pelvis, produced not only by a bulging forward of the sacral promontory, but also by a recession of the pubes. This condition was readily appreciated by all of us. Dr. J. W. Booth stated that the deformity had progressed considerably since her last confinement, and had now become so great that it would not be practicable to extract even a mutilated child. Evidently, then, we had here a very badly deformed, figure-of-eight (∞) pelvis, with the antero-posterior diameter of the inlet less than two inches. The woman was strong and healthy, had been in labor only a few hours, and all of us believed that the Cæsarean section was the only rational procedure.

Operation.—The patient was chloroformed and placed upon two kitchen tables, which served us as an operating table. The mons veneris having been shaved, the abdomen and genitals were washed with soap and water, followed by ether and a solution of bichloride of mercury. A hot carbolized vaginal douche was also used. The instruments, sponges, ligatures, etc., were all thoroughly sterilized, as were my own hands and arms and those of my assistants. In short, every aseptic and antiseptic precaution was observed. Dr. J. W. Booth managed the anæsthetic throughout. Drs. T. L. Booth and Grandy supported the knees and attended to the sponging, while Dr. S. D. Booth acted as my right-hand man, assisting me most skilfully in many ways. I will state that before the operation was begun a hand and arm (the right) presented in the vagina. Sänger's operation was the one selected. I began by making an incision from the umbilicus nearly to the symphysis, dividing the peritoneum upon a grooved director. Finding this incision insufficient to admit of the gravid uterus being turned out, I enlarged it about three inches upward to the left of the umbilicus. The uterus was then seized and lifted out, and a rubber cloth, prepared for the purpose, placed under it to protect the peritoneum. The intestines were controlled by flat sponges in the hands of one of my assistants. The uterus was then laid open, and an asphyxiated female child, of average size, extracted. There was a very prominent, but narrow, caput succedaneum, on the right parietal bone. Dr. S. D. Booth took charge of the child, and resuscitated it after about fifteen minutes of persevering effort. The placenta was delivered at once without difficulty. An hypodermic of ergotine was given at this time. There was very little hemorrhage from the placental site or from the wound, but as uterine contractions were rather tardy, they were stimulated by the introduction through the wound of sponges from very hot water. Two of these applications were followed by rigid tonic contractions and cessation of hemorrhage. The uterine wound was brought together with twelve interrupted silk sutures. I now covered this wound entirely by bringing together the divided peritoneum over it, *inverting* at the same time the free edges of the peritoneum, as in the Lembert intestinal suture.* I made eleven of these superficial, intermediate sutures. The rubber cloth was then removed, and the peritoneal toilet most scrupulously made. This was scarcely necessary, however, as this cavity was almost perfectly clean. The uterus was now replaced, and the edges of the abdominal wound brought together with twelve deep silver wire sutures (not made to include the peritoneum) between which I passed a sufficient number of superficial silk sutures to bring the wound into perfect apposition. There was absolutely no gaping of the wound at any point. Iodoform was abundantly used over the whole extent of the wound. Aseptic cotton was then applied, and this was held in position by a snugly-fitting rotten bandage. The patient was then placed in bed—pulse 110, respiration normal.

The entire operation consumed something less than an hour. I wished to remove the ovaries during the operation, but this was objected to by my colleagues, and was abandoned.

After Treatment.—A hypodermic of morph. sulph., gr. ¼, atrop. sulph., gr. 1-150, was now given. Before we left the house the patient expressed herself as feeling very comfortable, and made anxious inquiries about what she should be allowed to eat. Dr. Grandy kindly consented to remain with the patient, and from this point I shall follow his notes, taken at the bedside. The patient rested quietly during the night, showing only slight restlessness at intervals. During the twelve hours of the night three hypodermics of morph. sulph., gr. $\frac{1}{4}$, were given. Temperature and pulse remained 100 and 129. respectively, throughout the night. On Saturday morning (29th) she awaked, and stated that she was entirely free from pain, and was hungry. Chicken broth was allowed her, which she ate with evident relish. During the day the patient at no time complained of discomfort, and talked intelligently with the doctors, her husband and the nurse. Beginning at 6 a. m., quin. sulph. gr. viij, was given every three hours until thirty-two grains were given. At 3 p. m. temperature 99.3, pulse 120. Chicken broth and milk and brandy were given frequently during the day, being only occasionally rejected. Drs. J. W. and T. L. Booth visited the patient to-day.

---

*This I regarded as an improvement upon the Sanger method of suturing the uterus, and equally efficacious in preventing intra-peritoneal hemorrhage. I thought this was an entirely original method, at the time, but now believe that other American operators, Garrigues among them, have followed the same plan.

On Saturday night and Sunday the clinical record varied little from the above, the patient remaining quiet and restful. Quinine and nourishment were given as on preceding day. Patient was to-day (Sunday) very anxious for solid food. At 3 p. m. temperature normal, pulse 108. This afternoon I visited the patient in company with Drs. J. W. and T. L. Booth; we found everything satisfactory, and gave a favorable prognosis. Dr. Grandy returned with me to Oxford, Dr. T. L. Booth taking charge of the patient for the present. Beginning at 6 p. m. a capsule containing quin. sulph., gr. viij, morph. sulph., gr. $\frac{1}{4}$, was given every six hours, until four were taken.

At 4 o'clock, Monday afternoon, all of us returned to the patient's house, and found that she had been doing well during the day. At 8:30, a. m., temperature normal, pulse 90. We were at the house about half an hour, during which time patient was quiet, conversing intelligently. About an hour after leaving, patient became very restless and unmanageable, whereupon Drs. T. L. Booth and Grandy were hastily summoned. Upon arrival they found the woman delirious—talking wildly and very restless. In a few minutes she became more quiet, and remained so until about 9 o'clock, when she was again seized with a paroxysm of delirium (or mania ?). Morph. sulph., gr. $\frac{1}{4}$, was given, which produced a sound sleep, lasting nearly two hours. The benefit thus produced, however, was wholly temporary, for when she awaked she was even more restless and talkative than before. She was now disposed to move aimlessly about on the bed, and made repeated efforts to get up. These movements were prevented only by the forcible restraint of her attendants, the narcotics administered proving entirely ineffectual. An hypodermic of morph. sulph., gr. ¼, atrop. sulph., gr. 1-50, was given (about 11 o'clock), followed in about an hour by svapnia, gr. j, per orem, neither of which produced any appreciable effect. In about another hour, or perhaps a little longer, the hypodermic injection was repeated, and at 2 : 15 o'clock another grain of svapnia was given. The patient still remaining wakeful and restless, at 3 : 15 another injection of morphia and atropia was given, about one-fourth of the solution remaining in the syringe, unused. At 4 : 30 o'clock she fell into a quiet sleep, which lasted little more than an hour.

On Tuesday morning I received this telegram : "Tisby maniacal, talks incessantly." I reached patient's house at 4 p. m., and learned from Drs. Booth and Grandy, who had been with her during the day, that she had had short periods of sleep, between which were intervals of restlessness and incoherent jabbering. She was now evidently in a profound state of narcosis, from which I was unable to arouse her. Her pupils were greatly contracted, skin moist, pulse 160, respirations 36, temperature normal. Upon learning the amount of narcotics administered during the previous night I at once suspected that I had to deal with opium-poisoning. All my colleagues in the case were now present, except Dr. S. D. Booth, who was detained by sickness, and coincided with me in this opinion. About this time we observed that she stopped breathing, and at once atrop. sulph., 1-50, was given and artificial respiration practiced. The latter had to be done every few minutes for something more than half an hour. These cessations of breathing did not materially affect the pulse. Up to 8 : 30 o'clock the intervals between periods of suspended breathing gradually lengthened, and beginning about this time the last interval was seventy-seven minutes, without suspension. Pulse now 150, respiration rapid, but uninterrupted. At 9 : 30 o'clock, as narcosis was still profound, and patient again in profuse perspiration, atrop. sulph., gr. 1-100, was injected. From time to time brandy was administered hypodermically and by mouth. Strong coffee was also given. The pulse was now quicker, with more volume and less force.

At 10 o'clock three or four nitrite of amyl pearls were used, with marked effect, upon her respiration, though this was not lasting. Soon after this the patient seemed to rally a great deal, and apparently continued to improve for about two hours. She became more conscious, and upon being called would open her eyes, and seemingly make efforts to speak. Her conjunctivæ now became sensitive, and she made voluntary movements of her limbs. The coffee and other stimulants which were being given were readily swallowed. Her pulse remained rapid and of small force, so she was given, at 12 : 30 a. m,, 15 minims of tincture digitalis under the skin. Her condition at 1 o'clock was very encouraging, but this soon changed, and she passed again into a still more profound coma. However, there continued to be intermissions of apparent improvement for several hours. Her skin was uniformly moist, except for a short while after atropia was used. At 1 : 30 o'clock her temperature was observed to be on the rise, being now 103.5. At 2 : 15 another 15 minims digitalis was given, and at 3 o'clock atrop. sulph., gr. 1-75, was injected. The temperature had risen to 104.8 by 5 : 30 o'clock, and at 9 : 00 it was 105, which was maintained till the end.

On Wednesday morning the ice-pack was applied to the head, and other measures adopted to reduce the temperature and sustain the failing strength of the patient, but everything was unavailing, and the patient died at 11 : 20 o'clock. The heart continued to beat after respirations ceased.

Autopsy.—A general autopsy was refused. The husband, however, consented to an inspection of the parts involved in the operation. These were examined at once, and to our gratification found to be in a perfect condition of asepsis. No odor had been detected during the life of the patient, and now the abdominal wound showed not the slightest trace of septic infection. In fact, the wound was uniting nicely throughout its whole extent, by first intention. There had been no hemorrhage into the peritoneal cavity, and the peritoneum showed no sign of inflammation whatever. The uterine wound was absolutely clean, and perfect union had taken place. In fact, it was quite impossible, under the conditions observed, for septicæmia or peritonitis to have supervened. The deformity of the pelvis, as previously described, was now verified. The conjugate diameter would not admit the passage of any index and middle finger, being less than two inches.

REMARKS.

The question as to the cause of death in this case is a most interesting one. I shall not go into a lengthy discussion of this question, but shall limit myself to suggesting briefly several possible causes which have occurred to me in studying the subject. Primarily the question arises. Was the mania the first of an orderly series of symptoms of a condition which finally caused death? This I am now disposed to answer in the affirmative, though I confess that I thought at the time of my attendance upon the case that opium played an important part in bringing about the fatal issue. It will be noted, however, that 1 grain morphia had been administered during eighteen hours, extending through Sunday night, with the most pleasant effect. After mania supervened Monday, p. m., only 1 gr. morphia, with 2 grs. svapnia, was given during the night, and nothing approaching coma was observed until twelve hours after the last dose. During this period she had "intervals of restlessness." I feel sure, therefore, that the opiates could have had no ill effect whatever, and that the symptoms which so closely resembled those produced by this drug were due entirely to some other cause. That *death* was dependent upon this drug is, of course, out of the question. The same may be said of the 1-23 gr. atropia which was given during the eighteen hours preceding death. Was it septicæmia? I do not believe it was. The autopsy satisfied us that such a condition was almost impossible under the circumstances. During the years of 1883–'84, while house surgeon in the Charleston City Hospital, I saw much of septicæmia, both in the wards and dead-house; there was nothing in my present case, either before or after the autopsy, to suggest septicæmia as the cause of death to my mind. I must therefore differ from the eminent Dr. Robert P. Harris, of Philadelphia, in the opinion expressed by him in a courteous note to me of recent date, written after having my case fully set before him, in which he says: "As there was no full autopsy made upon your patient, the cause of death must be largely conjectural. My belief is that an obscure form of sepsis was at the bottom of it—the high temperature and delirium would indicate this." There are two other causes of death to be mentioned, one of which I feel sure produced the fatal issue in this case: I refer to acute mania and iodoform poisoning. In a paper read by Dr. T. Gaillard Thomas before the New York Academy of Medicine, April 4th, 1889,* he described a condition of "acute mania and melancholia as sequelæ of gynecological operations," reporting six cases from his own practice and twenty recorded by other operators. In the discussion of this paper twelve additional cases were added, making in all thirty-eight cases of acute phychosis following gynecological operations up to that time. This "post-operative insanity"—a name suggested by Dr. L. C. Gray--is probably in no way peculiar to gynecological operations. That the symptoms are similar to those of iodoform poisoning will appear from the discussion following Dr. Thomas' paper, as well as from the fact that he himself recognizes the analogy and anticipates what followed by saying: "In four of my six reported cases not a particle of iodoform was used at any time; so these are out of consideration in reference to iodoform poisoning as a factor. In the two remaining cases iodoform was used, as I always use it, very cautiously and entirely on the line of cutaneous union, where absorption would have been next to impossible." Dr. J. B. Hunter called attention to the fact "that a very small quantity of iodoform would in some susceptible patients cause iodoform poisoning." Dr. Mundé "did not believe iodoform had any influence, for he had seen wounds packed with it, yet the patients did not become maniacal." In closing the discussion Dr. Thomas said: "If iodoform possesses the disadvantage of ever producing such grave results as had been described during the evening, it seemed to him that the advantages which pertained to it hardly warranted its use. He was in the habit of sprinkling a little iodoform along the line of sutures which closely coaptated the edges of the external abdominal wound in laparotomy, yet he was not prepared to deny Dr. Hunter's position, that even under those circumstances the iodoform might cause poisoning. He had some cases of insanity lasting three or four days, due to iodoform poisoning, but had not mentioned them in the paper." Dr. H. C. Wood says:* "The extensive surgical use of iodoform has led to a number of poisonings by it. The symptoms are variously described, and it is almost certain that in some cases they have been due to the wound and not to the dressing. They may be preceded by general malaise for a day, and then suddenly burst forth. In the most characteristic and severe class of cases the phenomena resemble somewhat those of meningitis, and may be somnolence, deepening into stupor, with contracted motionless pupils, or restlessness, ending in active delirium, in either case the temperature being normal and the pulse exceedingly rapid. A peculiarity of these cases seems to be that death usually follows, although the symptoms have developed abruptly and the dressings have been removed at once. Dr. Schede, of Hamburg, describes six classes of cases, his sixth form being that just spoken of. 1. High fever, without other phenomena. 2. Fever, with mild gastro-intestinal irritation, depression of spirits and rapid pulse; recovery almost invariable. 3. Very rapid, soft pulse—150 to 180; no fever; great danger. 4. Very rapid pulse, with high fever; death almost invariable. 5. After severe operations, rapid collapse and death. A form of poisoning, with melancholia, dilated pupils and hallucinations is also described." I can testify, from a somewhat extended personal observation of Dr. Schede's work in Hamburg last summer, that he still uses iodoform abundantly as a surgical dressing, and apparently without fear, especially after severe operations in the mammary, axillary and cervical regions, where it seems that absorption would certainly take place very readily.

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* "Medical News," April 13th, and "Medical Record," April 20th.

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* Therapeutics, etc., seventh edition.

In what category this case will be placed in the history of death following Cæsarean section I cannot say; but nothing is more certain to my mind than that it should not rank with deaths from septicæmia. Whether or not I am right in my belief that it lies between "post-operative insanity" and iodoform poisoning I will leave others to say.

It should be stated in closing this report that the child at this date (August 15th) is living and doing well.

NOTES ON STATISTICS OF THE OPERATION, BY DR. R. P. HARRIS.

July 23, 1889.

Dr. J. M. Hays:—Dear Sir:—As you have given no particulars of the Cæsarean case to be reported, not even the date or result, I enclose a blank to be filled up for my private register. This will also give the points to be recorded, all of which rarely appear in a reported case.

It is impossible to state how many Sänger operations have been performed up to this time; but there have no doubt been over 200.

There have been 30 operations, with 13 recoveries, 16 deaths and 1 (your own) result not given, in the United States (1882–1889).

Germany has had 91 operations, with 11 deaths: 2 cases, result unknown, but probably favorable.

For 1888 I have collected for Continental Europe...... 54
" United States............ 12
Deaths in Continental Europe, 5; cases unknown 2.
" United States, 7 (i. e., 5 out of 52, and 7 out of 12).

Of 189 cases in all, there were, recoveries............... 140
" " deaths.................. 45
unknown, including "case 189"..... 4

Operations of Continental Europe..... 153
Deaths..... 26
Not given.. 3
1882–1889.

Yours, very respectfully,
Robert P. Harris.

There were 177 Sänger operations up to January 1, 1889.
" " 65 " " in the year 1888.

At this rate there will be 242 by January 1, 1890, and there must have been over 30 this year thus far, of which not half have yet been reported. R. P. H.

July 30, 1889.

Dear Dr. Hays:—Please state why your patient died—such a case should have recovered.

Cæsarean operations of the United States................ 186
Women died............... 115
Cæsarean operations in Philadelphia, not including Porro cases (3—2 died).................... 15
Women recovered after "old style" (6 cases)........ ... 2
" " " "Sänger's method" (7 cases)..... 5
The 2 deaths were the first 2.

There have been 6 Sänger operations in the United States this year, with 4 recoveries; 3 of the latter in Philadelphia.

In March, 1852, there was a Cæsarean operation at Fayetteville, N. C., under Drs. Mallett and McSwain, on a Mrs. Taylor, a white woman of 21, with an arm presentation. Pelvis small, c. v. 3 inches. Trans. 3 inches. Woman "fatigued and worn out" under labor. Woman recovered; child lived!

Three years later the woman ruptured her uterus in labor—three months and six days after the accident Dr. H. A. Bizzell performed laparotomy, and Mr. T. again recovered.

Case communicated by Dr. Bizzell, who questioned the necessity for the Cæsarean section.

Yours truly, Robert P. Harris.

August 6, 1889.

Dear Dr. Hays:—As there was no full autopsy made upon your patient, the cause of death must be largely conjectural. My belief is that an obscure form of sepsis was at the bottom of it—the thigh temperature and delirium would indicate this.

There have now been 194 Sänger operations, with 48 deaths.

R. P. Harris.

CLINICAL REMARKS ON A GANGRENOUS LIPOMA OPERATION.

Service of Middleton Michel, M.D. (Reported by Dr. W. O. Nisbet, House Physician, Charleston, S. C.)

But for the condition in which you see this large tumer on this woman's shoulder there could be little difficulty of at once recognizing its true nature.

This ulcerative, suppurative mass, with its accompanying fetor, might suggest the idea of some malignant tumor, certain to return if removed. Such, however, is not the case. This, on the contrary, is an ordinary fatty tumor, growing precisely where it is most frequently met, on the shoulder, and it is called a "Lipoma," which means *fat.*

However common these fatty tumors may be, this particular one is of special interest from a clinical stand-point. It is, indeed, extremely rare, that we meet this growth in the pathological condition in which you here find it. Usually a fatty tumor is perfectly smooth, or very slightly lobulated, indolent without pain, circumscribed and limited by a distinct capsule, cumbrous only through its great size and weight, since these growths acquire, as you see, remarkable dimensions. Tumors of this kind, present usually an investment of condensed cellular tissue, which forms a capsule, the density of which depends upon the region in which the lipoma grows; for immediately back of the neck and shoulders we may expect a relatively thin and attenuated covering since the cellular tissue here is not excessive.

As regards the diagnosis of a lipomatous tumor, we ought seldom to be embarrassed, if we remember that it is usually a smooth, though somewhat lobulated, painless tumor, of slow growth, with no involvement of glandular strictures in its vicinage. But it happens sometimes, though very rarely, that, from the great size of the tumors, from the preternatural distension of the capsule and skin, and, perhaps, from marked degeneration of the fatty lobules, which often tend to resolve themselves into a fluid state, subsequent abrasion, ulceration and gangrene of the tissues ensue, producing so great a change in the absolute condition of the original growth, that this slowly assumes a malignant aspect, and the patient is obliged to apply for surgical assistance. Such a condition as we have supposed you see actually has occurred in this woman.

The continuance of such a state of disease leads necessarily to blood-poisoning if not interfered with surgically; indeed, the patient already appears wtih some symptoms not unlike such as we might ascribe to septicæmia; under such circumstances, therefore, her application for relief calls imperatively for the removal of this growth.

The cause of lipomata is always obscure. Why adipose tissue should thus become locally incapsulated is certainly not very plain. When that form of the disease, which is spoken of as diffused lipoma presents itself, without any limiting membrane in the form of a capsule, spreading over, and almost belting, a limb or some other part, for example, surrounding half the neck, as it sometimes does, we can readily comprehend that the trouble here consists in nothing more or less than an excessive increase of the tissue in its own natural bed; but it is not equally apparent why this fat should grow within a limited investment, very often forming an immense tumor pendant to the part by a peduncle formed by the same skin, though the peduncle itself contains perhaps no fat at all! Pressure or a blow upon a part may be presumed to have excited an exuberant growth of fat in a particular region, which fat presses out, displaces and ultimately condenses the connective tissue into a veritable capsule, lapsing into which sac it becomes an isolated mass, the weight of which drags the integument into the form of a peduncle.

Lipomata may occur in any part of the body, since adipose tissue is found almost everywhere beneath the skin; but they seem to be more frequent upon the trunk. Many years ago I removed from the right labium pudendi a large tumor which extended to the knee, the peduncle of which was borrowed from the inner side of the thigh as well as from this portion of the vulva. There are two situations, however, in which these growths are never found. They can never be developed where no fat exists, as in the serous cellular tissue of the eyelids and scrotum; and then, again, where the hard skin, in the exercise of its function, is subjected to more or less constant pressure, as in the palmar and plantar surfaces. Whenever fat abounds it is possible for such tumors to occur, thus, in the abdominal cavity, we may encounter a purely fatty tumor developed within the omentum. On the contrary, where no fat obtains in or about a part, no exactly similar production in the form of a veritable tumor seems possible. I am not sure, therefore, that one can speak with propriety of a lipoma of the testicle since no adipose structure is to be found in or about this gland. While a fatty degeneration of an organ is quite a different thing.

In certain pendant parts we meet with hypertrophy of the skin, as in the scrotum and vulva, which assumes elephantine proportions, constituting tumors called pachydermatoceles; these are not to be confounded with the disease I am describing. They are hypertrophies of the dermis proper, a disease of the skin—only, not of the tissues beneath the skin. From the very nature of elephantiasis, such a growth, most common in negroes and often congenital, can never be confounded with a simple development of adipose tissue.

Now, with respect to treatment, I have nothing to say of attempts to cure or to reabsorb these fatty masses by the many drugs and salves which have been proposed from time to time. The surgeon knows of but one way of at once removing the trouble, and that is with a knife. No serious difficulty nor danger is connected with the removal, particularly, when a well isolated peduncle exists. Circumscribe the peduncle and dissect away the mass, and when this attachment to deeper seated parts is well defined and limited, the ablation is accomplished, perhaps, with no dissection at all, but with one sweep of the knife, thus resolving the operation into one of the simplest in surgery. With the fetor that surrounds us here and the gangrenous state of this mass, we have first to disinfect it, so that an assistant may be better able to handle the same, while the anæsthetic is being administered.

REMARKS.

From the hospital record we may supplement the professor's comments upon this case by stating that L. J., a mulatto woman, was 60 years old, of marked obesity, weight 175 pounds, exhibited general prostration, with persistent anorexia. The tumor, oval in shape, was about the size of a large child's head, attached by a pedicle three inches in length over the supra-spinous fossa and superior border of scapulum. It had been growing for five years without pain or inconvenience, until a few weeks previous to admission into hospital, when a small suppurating spot appeared on the summit of the tumor and progressed with rapidity, involving much of the skin and dipping down into the growth to one third of its depth. The odor was intensely repulsive, and the discharge so considerable that constant irrigation with Labarraque's solution was necessary to keep her cleansed—covered with oakum and deodorized with 1—500 solution of permanganate of potash. Under chloroform two eliptical incisions included the pedicle and furnished the necessary flaps; very little hemorrhage; the wound was washed out with 1—2000 bichlor. solution, drainage-tube inserted, and wound closed with interrupted suture. Examination disclosed a true lipoma, invested by a fibro-cellular capsule, with septa passing inward, dividing tumor into lobules of various sizes.

SUPRA-PUBIC CYSTOTOMY FOR ARTIFICIAL URETHRA IN PROSTATIC OBSTRUCTION AND FALSE PASSAGE.

By W. W. Lane, M.D., Wilmington, N. C.

For the relief of those urgent and distressing cases which often present themselves to the surgeon for immediate interference otherwise than by the natural outlet, four methods are offered for gaining access to the bladder. I will merely allude to these several methods, stating more in detail the case under consideration in the caption of this article:

1. *The Aspirator.*.—This may be used in cases of great emergency, when the surgeon is compelled to relieve retention without regard to the cause. It is especially suited to those cases where there is reason to believe that the urine will be passed in a few hours by the urethra.

2. *Puncture per Rectum.*—This drains the blood-bladder well, but the serious disadvantages connected with it are so great that the supra-pubic operation is always preferable.

3. *Puncture through the Prostate.*—Mr. Reginald Harrison, the Liverpool surgeon, has advocated this method and published a successful case in an octogenarian with prostatic retention. There are many objections to this method—the patient must be kept in bed, and the danger of septic phlebitis is very considerable.

4. *Supra Pubic Puncture.*—This operation has the advantage of being easily performed, of giving permanent relief, if desired, and of being safe. The two objections brought against it are (1) that it gives bad drainage, and (2) it is liable to extravasation. Neither of these are borne out by facts.

Jacobson, the Guy's Hospital surgeon, from whom I have here quoted, says he considers it the best all-round method, and the one of widest application that we have. Its relief is immediate, safe and simple withal. His operation (of supra-pubic puncture, described above), will be seen differs from Dr. McGuire's, the method I followed in the case related. A median puncture is made through the skin just above the shaved pubes with a curved trocar and cannula, the latter carrying tape-holes, but a straight instrument may be used, through which an 8 or 9 gum-elastic catheter, or better, a Jacque's catheter, is inserted. In four hours the cannula can be removed, and a larger one—a 10 or 12—introduced.

S. B., aged 54, had been suffering from enlarged prostate for several years, and his physician had furnished him with a gum catheter and instructed him in its use.

This he was in the habit of introducing with the aid of a stylet, but an evil day came when, with the latter protruding through the eyelet of the catheter, he succeeded in punching an opening below the prostate, and, urged on by an increasing desire to void his urine, his continuous efforts resulted in the formation of a deep pocket in the pelvic fascia. This cavity my friend, Dr. Burbank, reached with a catheter and drew off a large quantity of bloody fluid; it was impossible to pass any instrument, of the smallest calibre, into the bladder, the parts being so much swollen and congested. Under these conditions the bladder greatly distended, and the suffering very great; his feet and legs boggy; a dome-headed aspirating trocar was pushed into the bladder just above the pubes, a Davidson syringe attached, and a large quantity of stinking urine pumped out to the great relief of the patient.

This operation I repeated twice in the following twenty-four hours, when another effort to pass the obstruction failed, the instrument invariably turning into the large pouch alluded to.

Deeming it unsafe to continue puncturing the diseased organ, I determined to follow the method devised by Dr. Hunter McGuire under similar circumstances, viz: making an opening through the supra-pubic region to serve as a temporary urethra, or a permanent one, if it should prove necessary. There was no time to be lost in doing this, as the retention of this strong ammoniacal water was rapidly approaching its characteristic effect on the system.

The peculiarity of the case did not admit of my carrying out in detail Dr. McGuire's method, for the following reasons: The symptoms were urgent, the bladder could not be washed out with hot carbolized water, as no catheter could be introduced.

I had no gum bag for introducing into the rectum for the purpose of pushing the bladder over the pubes, and the lack of this rendered the operation much more difficult than it otherwise would have been.

OPERATION.

A vertical incision was made, beginning between three and four inches above the pubes and extending to the symphysis along the line of the linea alba, the incision in the latter being about an inch shorter than that through the integument.

The cellular tissue along with the transversalis fascia was carefully divided on the director until the wall of the bladder came into view. The peritoneum was not met with.

The bladder was now hooked up with the tenaculum and opened low down; but the latter having lost its hold, the collapsed viscus slipped out of sight, and it was very difficult and tedious to regain but through the skill and patient perseverance of my assistant, Dr. Burbank, it was finally brought to light.

It was at this point of the work that the need of the distended bag in the rectum was sorely felt, and with my present experience would not advise anyone to attempt the operation without its use.

The bladder having now been explored with the finger, and well irrigated with the bichloride solution 1—2000, the incision was secured with tolerable deep sutures, though not including the recti muscles.

A catheter was passed through this track into the bladder and retained thirty-six hours; it was then removed, the parts well supported with adhesive straps, and covered with a pad of absorbent cotton, the latter to be as often renewed as necessary.

The urine was kept in an aseptic condition through the administration of the mineral acids.

August 30th.—The patient was discharged from hospital, the operation having been done on July 20th. The swelling in feet and legs has entirely disappeared, and his general health fully restored. A small well-turned-up prostatic catheter could now be introduced, per via naturales, with a great deal of care, though the false passage had not yet closed; but as he would in all probability have gotten into trouble again, if allowed to use one himself, and as he also prefers it to the old urethra, it was thought advisable to allow it to remain permanently. The wound has healed kindly, the patient passes his water freely, in a very fair stream, several feet from the body, with no retention, and only some dribbling at close of the act. The result was better than I anticipated from a mere slit in the bladder, without any of the advantages the neck of that organ affords. I was for some time apprehensive that he would never be able to eject his water in a stream, but as the fistule gradually assumed the function of a urethra, the external meatus in the skin was contracted in a hose-like fashion, which enabled him to urinate with some degree of force. The result, on the whole, was altogether satisfactory, and the patient highly pleased—says he does not wish to use the catheter any more, and is very grateful for the relief that has been afforded him from his suffering, and has returned to his usual avocation. The profession is certainly very much indebted to Dr. McGuire for pointing out to us this efficient method of dealing with these very serious complications. Speaking for myself, I thank him very sincerely.

DEAFNESS—ITS CAUSES AND PREVENTION, FROM A RATIONAL STANDPOINT.

By J. M. Hays, M.D., Oxford, N. C.

(Read before Conjoint Session of the Medical Society and State Board of Health.)

The importance of a more general and thorough knowledge of the causes which deprive so many of our fellow-beings of the valuable sense of hearing, and also the rational means of avoiding the same, must be so apparent to this intelligent assembly as to perhaps render unnecessary any apology for the subject which I have selected for my paper—a subject which in such a large measure influences man's physical, mental and social well-being, from the cradle to the grave; determining whether he shall be a useful and happy member of society, or a more or less useless and unhappy one, too often dependent upon public or private benevolence.

I think no one will deny, however, that it is a branch of science of which almost nothing is known by the public at large, and one which is more than any other ignored by the physician. I repeat it, that of all the numerous divisions and sub-divisions which the science of medicine has undergone in recent times, Otology has, in proportion to its practical merit, received less attention at the hands of those whose function it is to ameliorate the ills of human kind, than any other branch of our science. Nor do I believe the cause is hard to find—the principal one, at any rate—which, if I mistake not, is that the public, as a rule, do not have an adequate appreciation of the hearing sense until it is practically lost or greatly impaired; and even then, in the majority of instances, they ignorantly wait for nature to heal the trouble, or for various other reasons delay seeking intelligent advice until too often the disease becomes hopelessly chronic, and the best professional skill is of no avail. And so the doctors get careless and indifferent; the people lose faith in the curability of ear diseases, and the percentage of deafness continues to increase rather than to diminish with the advance of civilization; and let me say here, parenthetically, that even Nature herself seems to have wofully neglected ear diseases, and is totally unreliable in that line of practice. I therefore ask of this body, as conservators of the public health and disseminators of hygienic science, that they emphasize the importance of a more general interest in the matter of ear diseases, both on the part of the medical profession and the people at large, than has hitherto been accorded the subject.

Permit me, Mr. President, in order to an understanding between my audience and myself as to what I have to say, to dwell for a few moments upon the mechanism of the ear as the organ of the special sense of hearing, and upon the functions of its intricate and beautifully constructed arrangements for the reception and transmission to the deeper structures of the brain of every variety and shade of sound—from the faintest whisper of the Æolian harp to the grandest outburst of the full orchestra; from the exquisite trill of the distant nightingale to the everlasting roar of Niagara.

For convenience of description the ear has been divided by anatomists into the external, middle and internal ear—a division which is observed as well in all systematic treatises on the diseases of this organ; for, owing to the essential difference in the intimate structure and functions of these parts as well as in their location, the fact must naturally be inferred that the diseases affecting them must be likewise different. *You will observe that I have here pictured the various parts of the ear very much enlarged, which will, I hope, give you a fair idea of the relation of the parts concerned in hearing to each other. The external ear consists of that portion of the organ projecting from the head known as the auricle and of a canal extending inward in a somewhat tortuous direction to the drum-membrane. This external auditory canal is a little less than half an inch in diameter and about an inch and a quarter in length. The skin lining this canal throughout its whole extent is not peculiar except that situated within and immediately beneath it are numerous minute glands, known as ceruminous glands, which, together with the glands accompanying the little hairs of this region, secrete cerumen or "ear-wax." This substance is extremely bitter, and, owing to that property, it is doubtless a valuable agent in preventing the ingress of insects. The function of the internal ear is merely to collect the waves of sound and direct them to the drum-membrane. The latter is a delicate semi-transparent membrane, dividing the external from the middle ear. It can rarely be seen in the white races without instrumental aid, but may usually be seen in

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*Referring to a beautifully executed drawing by the author.—Eds.

the negro by simple inspection, owing to its larger size and greater straightness in that race. The membrane is tilted outward from above at an angle of 45°, usually, though, in "musical ears," it is much more vertical.

The middle ear, or tympanum, which is the part concerning us more particularly at present—since the seat of deafness is most frequently to be found here—is situated within the substance of the temporal bone, and in that part of this bone, which, on account of its extreme density, is called the petrous portion. This little tympanic cavity measures something less than half an inch from before backward, one-fourth of an inch in the vertical direction and a little less in the transverse. It is guarded from the outside world by the drum-membrane. To the inner side lies the internal ear, hid in the dark recesses of the petrous bone; behind it is connected by several small openings with the little cavities in the mastoid portion of the temporal bone known as mastoid cells; and anteriorly it is continuous with the Eustachian tube, of which more directly. The middle ear is lined throughout with mucous-membrane similar to, and continuous with, that lining the nose, mouth and throat, and, I may say, the whole respiratory and digestive apparatus and all other cavities or tubes communicating with the exterior by the different openings of the body. Now, this mucous-membrane which *lines* the body is very analogous to the *skin* which covers it. Each is abundantly supplied with a series of minute glands whose function it is, in the main, to lubricate the parts respectively: in the *external* skin this secretion (or excretion, if you will,) is perspiration; in the *internal* skin, or mucous-membrane, it is called mucus. When the secretion of these mucous glands becomes excessive from disease, the condition is known as catarrh—it matters not in what part of the body the affection is located. The middle ear then, you will please bear in mind, is lined with this mucous-membrane. Traversing this little cavity and directly connecting the drum-membrane with the internal ear, are three little bones or ossicles known as the malleus, incus and stapes, from their resemblance to a hammer, anvil and stirrup. The malleus is intimately adherent to the drum-membrane, the stapes is attached by the so-called foot-plate of the stirrup to one of the two little doors between the middle and internal ear, while the incus is placed between these two ossicles and forms the bond of union between them.

Herbert Spencer says:* "Men who would blush if caught saying Iphigénia instead of Iphigenīa, or would resent as an insult any imputation of ignorance respecting the fabled labors of a fabled demigod, show not the slightest shame in confessing that they do not know where the Eustachian tubes are, what are the actions of the spinal cord, what is the normal rate of pulsation, or how the lungs are inflated. While anxious that their sons should be well up in the superstitions of two thousand years ago, they care not that they should be taught anything about the structure and functions of their own bodies—nay, would even disapprove such instruction. So overwhelming is the influence of established routine! So terribly in our education does the ornamental override the useful!". I will tell you where the Eustachian tube is—the description of one, of course, sufficing for both. It leads from the middle ear to the upper part of the throat or pharynx, and opens into the latter near the posterior orifice of the nose. This tube is from one and a half to two inches in length, and about the diameter of a goose-quill. It is lined, of course, with mucous-membrane. The function of the Eustachian tube is exceedingly important, and is especially to be noted in view of the relation it has with very many of the most ordinary forms of deafness. It is a well-known fact that the weight of the atmosphere is about fifteen pounds to the square inch, making a constant pressure of about five pounds on the delicate drum-membrane. It is evident that this pressure could not be sustained if the opposite side of the membrane were a vacuum; so that the Eustachian tube is placed here to transmit air freely to the cavity of the middle ear, and so compensate for the external atmospheric pressure. So much for the middle ear at present.

The internal ear consists of an irregular and exceedingly delicate bony cavity known on account of its great tortuosity as the labyrinth. Its structure and the ultimate distribution of the auditory nerve within its limits are matters which are scarcely germain to my subject. Suffice it to say that this labyrinth is filled throughout with a clear, watery liquid suspended in which are the terminal nerve filaments connecting with the little rods of Corti, which, according to Helmholtz, are about 8,700 in number—the whole arrangement resembling a harp with thousands of strings, played upon, as it were, by every conceivable sonorous vibration. The internal ear is, after all, the most essential part of the auditory apparatus; for whenever and however waves of sound impinge upon these nervous filaments, they are perceived by the brain as such unless, indeed, there is some fault in the nerve trunk, or sensorium itself.

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* "Education: Intellectual, Moral and Physical."

As regards the physics of sound, I shall say but a few words. It is scarcely necessary to state that the wave theory is the one accepted by all physicists at the present day. When I cause my tuning-fork to vibrate it sets in motion waves of air at the rate of 512 to the second—it being a middle c. These waves, travelling at the rate of about 1,000 feet per second, impinge upn the drum-membrane and cause it to vibrate in unison with the tuning-fork. These vibrations are transmitted through the little ossicles of the middle ear to the aqueous channels of the labyrinth where the properly tuned fibre of Corti, or harp string, vibrating, also, at the rate of 512 to the second, takes up the sound, and, through the medium of the auditory nerve, conducts the impression to the brain.

Having now seen how sound is produced, let us glance at some of the most common forms of deafness with an especial view to their prevention. Of 7,835 cases of ear disease which I have collected from all sources, including my own modest contribution of 37 cases—the only ones of which I have accurate notes—I find that the principal trouble existed as follows:

External ear	1,067
Middle "	6,551
Internal "	171
Deaf mutes	48
Total	7,837

Many of the affections of the external ear do not come within the scope of my paper, as they do not produce deafness. I wish, however, to say a few words about foreign bodies in the ear, and under this head I shall include impacted cerumen or wax, the latter being by far the most common substance necessitating removal. Unless the foreign substance presses against the drum-head no material diminution of hearing results, but, as a rule, it will become thus impacted, sooner or later. This may take place in consequence of a sudden jar, causing it to change position from awkward efforts at removal; or, again, water may get into the ear and cause hardened wax, a bean, grain of corn, or something of the sort, to swell and thereby produce impaction. Extraneous substances of almost every kind, animate and inanimate, have been found in the ear, especially in the case of children who put them there in play, little dreaming what may be the consequences of their folly.

A remarkable case of a foreign body in the ear occurred in the practice of my friend, Prof. F. L. Parker, of Charleston, S. C. He was sent for to see a man who had been suffering for six months with a violent cough and terrible pains in the ear and head. He had been treated for consumption and other things, but without any degree of relief. His condition was pitiful in the extreme. Prof. Parker gave him speedy relief from all his woes by removing a flea from his ear. I have a patient into whose ears I cannot introduce a speculum without setting up a violent cough. Such pheuomena are due to the sympathetic nervous connection between the ear and larynx. If there is no disease of the ear the proper removal of the offending body will always restore the hearing to normal. It is hardly necessary for me to say that this should be done as early as practicable after impaction, for delay but invites serious consequences. In fact, some very estimable aurists advise the thorough renovation of the ears at least once a year as a matter of precaution. The habit which some people have of picking their ears with hair-pins, ear-spoons and the like, cannot be too strongly condemned. Many cases of serious and painful injury, such as rupture of the drum-head, with dislocation of the ossicles, have resulted therefrom. The little finger, covered with a moist cloth, is, as a rule, the only instrument which anyone should use in making the toilet of the ear who is not familiar with its anatomy and who has not the proper instruments, with a steady hand to use them, and under the best illumination. The ear-syringe is usually a harmless instrument in the hands of a person of ordinary intelligence, but due discretion should be exercised in its use, since, as in case of the lodgement of a bean, etc., if the attempt at removal should be unsuccessful—and this is frequently the case—any moisture serves only to swell the foreign body and render it more difficult of removal by the proper means, to say nothing of the danger of serious inflammation being established by such swelling.

The name of the popular remedies for deafness, ear-ache and the like, is legion, and there is scarcely an old granny but has some favorite local application for the treatment of such cases. I have often had my attention called earnestly by them to the specific properties of the warm blood of the cock roach in deafness, and numerous cases have been cited by them to establish their absurd claims. John Wesley, who had some outlandish prescription for everything, advised: "For deafness, put a little salt in the ear.* The most common medicine for earache used by the unenlightened public is, I believe, sweet oil and laudanum. In regard to this I have to say that it is irrational, uncleanly and often injurious. It is never spoken of by the ear specialist except in words of condemnation. In the greater number of cases where this prescription is used the trouble is due to an acute inflammation of the tympanum or drum-membrane. One of the most distinguished authorities on ear diseases in New York says in regard to the use of sweet oil and laudanum: "This procedure does, indeed, in some instances, diminish pain, but it accomplishes this in an illegitimate manner. It deadens the nervous sensibility of the inflamed parts, but it does not arrest or diminish the inflammation. On the contrary, both the oil and the alcohol in the laudanum tend rather to increase the inflammation: the former by reason of the numerous germs of vegetable mould it contains and which may quickly take root in the inflamed tissues—the latter by reason of its well-known irritating properties."†

I wish now to speak of inflammation of the middle ear, which is by far the most important division of the subject, producing, as it does, about 85 per cent. of all cases of deafness. It attacks persons of all ages and classes, and varies in severity from cases so mild as scarcely to attract the attention, to others causing death in a few days. Roscoe Conkling was caught in the severe blizzard in New York last winter; an acute attack of inflammation of the middle ear was the result. The sequel you all know—how the disease spread to the brain, producing meningitis, of which he died. This was not a unique case; hundreds of our fellow-beings have gone in the same way.

Inflammation of the middle ear is either catarrhal or purulent; that is, the discharge from the mucous-membrane may be either simple mucus, or the inflammation may be of a more violent form and cause a discharge of pus or "matter." The constitution of the patient may have much to do with deciding this. In either case the trouble may be acute from the first and gradually assume a chronic form, or it may be chronic from the beginning. If the inflammation is of the purulent form the drum-membrane almost always ruptures in order to give vent to the pent-up pus, for the Eustachian tube is closed by the inflammation, and the matter seeks an exit by the easiest way then remaining, and this, fortunately, is usually the drum-membrane. When the latter is dense and refuses to yield, the danger of meningitis is always greatly increased. After this rupture takes place, followed by a copious discharge of pus, great and immediate relief is experienced; but the danger is not then over. Dr. Roosa, of the New York Post-Graduate School, than whom there is no higher authority in matters pertaining to the ear, impresses upon his students that, "with a running ear, one's life is constantly in danger; and yet," says he "how many there are who say: 'Let it run'; and this, too, even in the nineteenth century." It is a well-known fact that most life insurance companies refuse any applicant with a running ear. The causes of middle ear disease are numerous, and I will only ask your indulgence while I speak of those most frequent. Of these direct cold takes the lead. This may act with sudden violence, as in the case of Mr. Conkling, or its results may be more insidious and a catarrhal condition be established. "American residences and business-houses are heated in cold weather by dry hot air, and kept at a temperature of 70° F., or higher. The inmates are subject to this dry hot air, often laden with dust and noxious gases, the greater part of the day. The skin, consequently, is very active in its functions, and kept moist by free perspiration. But, though constant exposure renders the soldier, Spartan-like, indifferent to colds and storms, housing the body makes it tender, like the hot-house plant, and sensitive to sudden and extreme changes in the air. After working all day in such a temperature these people pass out into an atmosphere perhaps 20° colder. The skin is chilled, the perspiration checked, and a determination of blood to some internal organ occurs. Naso-pharyngeal catarrh is probably the most frequent consequence. The result is aided by high winds and the inhalation of dust. Indeed, a very large percentage of cases of naso-pharyngeal catarrh undoubtedly is due to the irritating effects of dust; this operating in conjunction with cold, damp air, seems largely responsible for the widespread existence of naso-pharyngeal catarrh among Americans. It is probably the most prevalent disease in this country.* I think from what I have already said about the close relationship existing between the ear and throat, it will be readily seen that any cause producing inflammation of the throat, and I may say nose, also, for they usually go together, may affect the ear by an extension of the inflammation, or catarrh, through the Eustachian tube to the middle ear. Everyone who has ever had a bad cold has experienced little crackling noises in the ears, especially after a somewhat violent use of the handkerchief. Frequently a disagreeable fulness is thereby produced, which usually disappears after swallowing or gaping. If you will compress your nostrils and blow, you will understand what I mean. This is known as Valsalva's method of inflating the middle ear—a method which is rarely advised in practice, however, for many reasons, not necessary for me to state here. The explanation of the phenomena produced is simply this: you force a superabundance of air through the Eustachian tube, and in case you have a hard cold or chronic post-nasal catarrh, mucus also is driven into the middle ear. The air thus forced puts the drum-membrane on the stretch, and if the inflation is very violent a peculiar roaring or buzzing sound is produced, and sometimes a slight vertigo. Now, in the act of swallowing this excess of air is liberated by the action of the muscles of the palate on the orifice of the Eustachian tube, and if the nostrils are again compressed, as you swallow there is a tendency toward a vacuum in the naso-pharynx and the normal amount of air in the middle ear is lessened, while the drum membrane is drawn somewhat inward.

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*Primitive Physic; or, an Early and Natural Method of Curing all Diseases." See "New York Medical Record," December 11th, 1886.

†Buck: Ashhurst's Inter. Ency. Surgery. Vol. V. Pp. 324–'25.

The severe headaches so frequent, especially with children, are usually due to exposure to cold and wind; an acute catarrh, or head-cold, is thus produced, causing a congestion of the Eustachian tube or drum-cavity, or both, with consequent pain; the rationale of which I will try to explain directly.

In chronic naso-pharyngeal catarrh there is an obstinate inflammatory condition of the mucous-membrane lining the nose and throat. In health this lining memembrane secretes an amount of mucous merely sufficient to keep the parts well lubricated, but not enough to cause any discharge either from the nostrils or in the throat; so that when a person finds it necessary to "hawk" every morning in order to dislodge a lump of mucus from the posterior nares, or, if the nose is clogged with scabby material caused by the drying of the mucus by the respiratory air during the night, such a person hae the first symptoms of chronic post-nasal catarrh, and should *at oncs* be placed upon the proper treatment; for, beside the long train of distressing symptoms directly referable to the condition of the naso-pharynx, the vocal apparatus will in time become affected, and so-called clergyman's sore-throat follows, and the ears are liable to become early involved from a spread of the catarrhal process through the Eustachian tube to the tympanic cavity itself. It will be remembered that the atmospheric pressure upon the drum-membrane is about five pounds—on each side, of course, so long as the Eustachian tube remains pervious; but so soon as it becomes stopped up with mucus and air, can no longer pass through it to the middle ear, there is atmospheric pressure only from the outside. Deafness is then the inevitable consequence, its degree being in direct ratio to the intensity of the inflammatory process, but more especially to the length of time it remains untreated. The hearing is affected by catarrh in various ways:

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*Dr. Bishop: Trans. Inter. Med. Congress, 1887. Vol. III. Pp. 806–'07.

1. When the atmospheric presssure is cut off from the inner side of the drum-membrane the latter is driven in, or sucked in, if you will, by the tendency toward a vacuum in the middle ear. This presses the little ossicles against the labyrinth, compresses its watery and nervous contents, and very frequently producing a most disagreeable ringing in the ears known as tinnitus aurium—a sensation compared by such sufferers to the ceaseless singing of crickets or rattling of dry-flys in the ears. Cases of insanity, brought on, apparently, by this cause alone, are reported.

2. The catarrhal process, when chronic (and by the term chronic I mean merely to exclude simple cases of "cold in the head" of short duration), is always accompanied by a thickening of the mucous-membrane. This necessity encroaches upon the diameter of the Eustachian tube and frequently closes it; but, what is of more serious import, it affects the vibratory action of the delicate drum-membrane and renders partially immobile the joints of the little ossicles producing a well-marked type of anchylosis. Rheumatism sometimes affects these little joints in the same way.

3. The actual presence of a thick, viscid matter in the middle ear, which in some cases quite fills its cavity, must obviously interfere with the proper function of all that is contained therein. The above condition of affairs is, as I have said, exceedingly common and produces by far the majority of all cases of deafness. Such a result is due solely to neglect, but is the one which, if Nature be allowed to manage the case, will always be reached sooner or later. Taken in time, however, when the first manifestations become apparent, such cases are quite amenable to proper treatment. Perhaps it is not going too far to say that in every case the progress of the disease may be checked even if the deafness and tinnitus be quite well marked.

It is very unfortunate that the impression is so widespread that catarrh of the nose and throat is incurable—an impression which, I have occasion to know, obtains even in the ranks of the medical profession.

In the purulent forms of middle ear disease the trouble begins, as a rule, with a violent inflammation of the part accompanied with fever and intense pain. In a few days, usually, the drum-membrane ruptures, a free discharge of matter through the external ear takes place, and gracious relief is experienced. It is always fortunate when Nature relieves these so called "risings in the head" by rupturing the drum-membrane, for otherwise there is great danger of the inflammation, or inflammatory products, reaching the brain and causing meningitis. Very rarely an acute purulent inflammation will relieve itself through the Eustachian tube, but it will not do to presume upon this unusual turn of events Hours and days of intense suffering, and even death itself, may be prevented by the timely resort to proper surgical interference in these cases.

In every case where there is a discharge of mucus or pus through the external ear there is a perforation in the drum-membrane. When the diseased condition causing this discharge is cured the perforated membrane soon heals. In fact, sometimes too great a disposition to heal is shown before the discharge ceases, and it becomes necessary to reëstablish the drainage outlet. Any acute febrile disease accompanied by a skin eruption, such as small-pox, scarlet fever, measles, cerebro-spinal meningitis, etc., is very apt to be accompanied with, or followed by, disease of the middle ear: typhoid and typhus fever might be mentioned under this head.

Diphtheria and croup are also very potent causes of this affection, and the same might be said of whooping-cough. The last mentioned disease differs from the others, however, in that the ear suffers in consequence of the violent inflations to which it is subjected during the paroxysms of coughing—sometimes even rupturing the drum-membrane. I am confident that, next to chronic naso-pharyngeal catarrh and the diseases just mentioned, the most frequent causes of deafness are the use of the nasal douche and snuffing water, etc., up the nose. The name of the man who first introduced this nefarious method of treating nasal catarrh ought to be anathema maranatha. I wish it were in my power to induce our General Assembly to make it a capital offense to offer for sale, or as a gift, a nasal douche within the bounds of our State, or at least make the tax upon them sufficient to support the Deaf and Dumb Asylum. One of the first questions asked at the Manhattan and New York ear dispensaries of patients who come in with middle ear disease is, whether or not a nasal douch has been used at any time, and in a large proportion of cases the answer is in the affirmative. It will be easily understood, I think, if you will consider for a moment the anatomy of the posterior nares in relation to the orifices of the Eustachian tubes, that any fluid which passes with even a slight degree of force through the nostrils, must almost inevitably find its way into these tubes and thence to the middle ear. This delicate and sensitive cavity will not even tolerate the presence of warm water kindly, and the addition of various medicinal agents to the water certainly does not lessen the danger of serious inflammation being caused by its use in this way. It is very certain that the direful results of these methods of treatment have been frequently enough recorded to place every physician upon his guard, and there is no writer upon ear diseases but who takes every favorable opportunity of condemning their use. Sea-bathing often has the same deleterious effect upon the ear from snuffing salt water up through the nose, as in strangling, etc. The drum-membrane is sometimes ruptured, too, by heavy waves striking the ear.

Immoderate smoking should be discontinued for many reasons, and it is especially proper for me to mention it in this connection, as tending to produce a chronic congestion of the throat which may lead to catarrh and cause deafness. This is not a "far-fetched" idea. The habit of exhaling smoke, especially cigarette smoke, though the nose has produced hundreds of cases of chronic naso-pharyngeal catarrh and consequent deafness. There are, of course, persons who have had cases of catarrh, who have used the nasal-douche, or other unscientific methods of treatment and smoked cigarettes "secundem artem," and yet have been delivered out of them all, with the hearing sense unaffected; but such cases are conspicuous as exceptions to the general rule, and perhaps have nickel-plated mucous-membranes.

The question as to whether or not quinine may be, and often is, guilty of carrying deafness, is one of unusual interest, and it is a matter of regret that the best authorities differ on this subject. From the well-known fact that malaria acts injuriously upon the ears, and as the largest doses of quinine are usually administered in this disease, it must, of course, be somewhat difficult to arrive at exact conclusions, from clinical experience, of the effects of the drug upon the organ of hearing. However, we are all aware of the fact that when a person is well under the influence of quinine there is a very disagreeable "buzzing or ringing in the ears, with deafness and a sensation in which his own voice sounds hollow and unpleasant." These phenomena are now, especially since the conjoint investigations of Hammond and Roosa upon the subject, pretty generally admitted to be due to an acutely congested condition of the middle ear and terminal filaments of the auditory nerve, though it is still, I believe, contended by some that the condition produced in these parts is one of anæmia, rather than hyperæmia. Now, while I have been unable to find in aural literature any well authenticated case of deafness due to quinine solely, and such acknowledged authorities as Roosa, Pomeroy and Buck doubt the existence of any such, it is admitted by all that "this drug is capable of fanning a slight and perfectly painless tubal and perhaps tympanic catarrh into a decidedly acute inflammation of this region.* It therefore behooves us to bear these facts in mind in the administration of quinine in large doses. A few days ago I was consulted by a young gentleman who had been quite deaf for a number of years, and who, with his whole family, had always attributed it to the effects of quinine. I satisfied myself by the ordinary tuning-fork tests that his deafness was not due in any degree to primary nerve trouble, and upon examination with the laryngoscope found the vault of the pharynx perfectly coated over with thick, yellowish mucus—and yet he was greatly surprised and shocked when I told him he had catarrh. I feel confident that quinine should bear but little of the blame in such cases.

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*Buck: Diagnosis and Treatment of Ear Diseases. Pp. 182–183.

Before leaving the subject of middle ear disease, I wish to say that in cases of chronic discharge from the ear there will frequently be found, upon examination, little tumors or polypi growing from the mucous-membrane of the middle ear and filling, perhaps, the whole external canal. These polypi, of course, make the deafness more profound, and on account of the danger of causing serious disturbance by pressure should receive surgical treatment without unnecessary delay.

Regarding deafness dependent upon disease of the internal ear, but little need be said. The nerve is the part affected in these cases, and this may be due either to direct injury, to the neglect of proper attention being paid to middle ear disease, to affections of the brain and spinal cord, etc. Secondary involvement from middle ear disease is the most common cause of nervous deafness, and is, indeed, about the only one which can be foreseen and prevented.

In view of the fact that these deep-seated diseases are so little subject to treatment, it is a very fortunate thing that less than five per cent. of all cases of deafness are due to disease of the internal auditory apparatus.

CHOREA.—Prof. H. C. Wood says that antipyrin is a more successful remedy than arsenic. With the latter the average duration of treatment is sixty to ninety days. With anytipyrin he has succeeded in completely arresting convulsive movements within one week.—*Albany Medical Journal.*

SELECTED PAPERS.

NITRO-GLYCERIN—A SUBSTITUTE FOR ALCOHOL IN CASES OF EMERGENCY.

By Joseph B. Burroughs, M.D.

The dose is one drop of a 1 per cent. solution. This may be taken in water into the stomach, the physician dropping ten drops into a tumbler, and adding ten teaspoonfuls of water, one teaspoonful now representing one drop of the remedy. If there is need of great haste, or if the patient cannot swallow from being unconscious, one drop can be placed within the lower lip or upon the tongue by means of a dropper or pipette. The drug may be given hypodermically; but so rapid is its absorption through the mucous membrane of the mouth that, unless the syringe should happen to be filled and ready for use, I doubt if any time would be gained by the use of the needle. Patients are not all alike in the amount required to produce an effect—some requiring three or four drops to produce the same effect; the usual dose, however, is one drop. Patients also differ in the duration of the effect of the drug. Usually the effect lasts three or four hours, but in a few cases the effect has ceased in twenty or thirty minutes. Dropped on the tongue, the effect is more rapid, as there is no dilution. By way of the stomach, unless greatly diluted, the effect is apparent in a few minutes, the pulse being increased from 10 to 20 beats, and becoming full and regular. In larger doses the face becomes flushed, a severe headache is experienced, accompanied with a feeling of fullness, singing in the ears, flashes before the eyes, and all the symptoms of an increased supply of blood to the brain. On account of this effect on the cerebral circulation, care should be taken in administering the remedy to the aged, as the sudden expansion of the cerebral vessels might cause a rupture of their weakened calcareous walls. Its action on the heart is through the sympathetic nervous system. The vagus nerve and the vaso-contractor nerves of the vaso-motor nervous system are depressed, partially paralyzed. This allows the extensive system of arterioles to dilate, and thus give room within their walls for a greater amount of blood to flow. Thus this enlarged reservoir of tubes relieves the heart of the work of forcing the current through narrow-contracted tubes. This and the vagus nerve being depressed, permits the heart to beat freer, fuller and more rapidly.

In case of a poisonous dose of nitro-glycerin having been taken, we should select as antidotes such drugs as act in an opposite manner upon the vaso-motor nerves to that of nitro-glycerin. Our object should be to cause a contraction of the arterioles. The most desirable agents for this purpose are strychnine, ergot and belladonna. These agents should be given hypodermically, in case of poisoning, as they diffuse much more slowly than nitro-glycerin. Everything should be done to save the brain from injury by the engorgement of the blood-vessels (hyperæmia). In one case I gave instant relief from the agonizing headache by having the patient place his clasped hands behind his neck and press the thumbs against the throbbing carotid arteries.

I will now proceed to report a few cases in which I have used nitro-glycerin with benefit.

CASE 1.—*Neuralgia of the Heart* (*Angina Pectoris*).—M. B., aged 35; occupation, painter. The first attack was slight; but pain returned very severely the following night, and every night for a week. The usual remedies were given, also remedies for lead-poisoning, but the pain usually lasted until the night was spent. On the sixth night I gave one drop of a 1 per cent. solution nitro-glycerin, with the result of stopping all pain and difficult breathing in ten or fifteen minutes. One drop was given three times daily for a week, when, as no pain had been felt after the first dose, the remedy was discontinued. During the following two years he had several attacks, but each time was relieved at once by the same treatment.

CASE 2.—*Nausea and Faintness during a Minor Surgical Operation.*—A young business man, while lowering a barrel of kerosene into the cellar, had two fingers of one hand torn nearly from his hand by being jammed between the edge of the barrel and the stone wall. While dressing the wounds, although he was reclining upon a couch with an abundance of fresh air in the room, he suddenly became deathly pale, dizzy and sick at his stomach. Brandy and ammonia might have been given, but in less time than it would have taken to mix them with water, I had dropped upon his tongue one-drop of glycerin, which sent the blood rushing back to his brain and permitted me to finish the dressing.

Case 3.—*Spasmodic Asthma.*—This was quickly relieved with one drop of nitro-glycerin, to the great surprise of the patient, a laborer, who was able at once to resume his work. Asthma, accompanied with a bronchial catarrh, is not so easily relieved.

Case 4.—*Headache* in the anæmic has been quickly relieved by the remedy.

Case 4.—*Rapid Prostration in Typhoid Fever* (*Enteric Fever*).—Mr. R., aged 40, carpenter, kept about his work until the severe headache and fever (102°, when he ceased working) compelled him to go to bed. The fever ran a severe course until the twenty-third day. Convalescence was slow for a week, when severe hiccough began, lasting several hours. The next day malarial fever manifested itself by the temperature running up to 104.5°, accompanied by severe vomiting and purging of bilious matter. Wild delirium in a few hours was followed by low mutterings and extreme prostration. The temperature and pulse fell rapidly, the pulse becoming remittent. Unless brandy were speedily given, it seemed to me he would die. The first spoonful given him he spat out with a cry that he was on fire, and refused to take more. I then gave him one-fourth of a drop of nitro-glycerin in water every fifteen minutes for two hours, causing the pulse to become full and regular. The delirium gradually subsided, and in twenty-four hours the mind was clear. Ultimately he recovered.

Cases 6, 7.—*Hysterical Aphonia.*—These two cases of hysteria—one a man of forty and the other a woman of twenty-six—are so nearly alike that the description of one will answer for both. They were suddenly attacked with rigidity of every muscle; were unable to speak or to move; respiration 60 per minute, short, superficial; pulse 40, and almost imperceptible; a terrible feeling of pain and pressure over the heart. They usually remained in this condition several hours, as the woman did the first time I was called to her bedside. A week later, being again to attend the woman, I administered one drop of nitro-glycerin at once. In a few minutes the heart-beat was 76, and full; the muscles began to relax; the respirations came in long, deep sighs; and in fifteen minutes she was as well as usual, except a little weak.

Case 8.—*Acute Alcoholism.*—The patient, who was over forty years of age, had been drinking heavily for some months, although at the time he applied for treatment he assured me that he had not drank one drop for some months. His feeble pulse and shaking body seemed to indicate that he needed, with the tonics and food, something to take the place of his accustomed alcoholic drinks. I gave him one drop of nitro-glycerin. In a few minutes the blood was coursing more freely; but the weakened cerebral vessels were unable to keep their ordinary calibre under this drug. As a result of the expansion of the cerebral vessels there followed one continual piercing pain in the head. Nothing gave him relief until I directed him to clasp his hands tightly around the back of his neck, with his thumbs placed firmly over the throbbing arteries of the neck, (carotid). Entire absence from all pain was instantly had, and lasted as long as the pressure was maintained. In an hour he began to feel relief without the pressure of the thumbs. I now avoid the use of nitro-glycerin where I suspect the person has recently been drinking. In all such cases I have had success in removing desire for alcohol by giving one-thirtieth of a grain of strychnia, combined with iron and chlor. ammonium (the iron is better borne when combined with the ammonium), given every three to six hours, as required.

CASE 9.—*Opium-poisoning.*—An elderly lady swallowed by mistake a large quantity of laudanum. In less than thirty minutes she was unconscious. Arriving shortly after sleep had set in, I found the jaws set firmly, while the rest of the body was limp. Pulse feeble and rapid. Respiration already down to 8 per minute. Hypodermic injections of atropia brought the respirations after an hour up to 9, and in another hour up to 10. The pulse on the other hand gradually grew more feeble. I discovered the cause of this to be that there existed a pronounced case of mitral insufficiency (I learned later that the heart disease was of twelve years' progress). Three hours later the respirations were 14 per minute. In all other respects the patient was rapidly nearing the close of life. The sleep was as deep; all parts of the body were relaxed; the limbs were cold up to the body; the pulse could hardly be felt at the wrist. The limbs were rubbed with hot applications, while I injected several syringefuls of pure alcohol (90 per cent.) into her arm, in the hope that the alcohol might keep the heart beating. Another hour and we had to go to the neck to feel any pulsation. I now dropped between her parted lips *three* drops of nitro-glycerin, 1 per cent. solution. Within a few minutes her pulse was bounding full at the wrist. Ten minutes more, and she stirred for the first time since swallowing the laudanum. In half an hour she was talking to us, asking to be let alone, as she desired to sleep; while the friends were insisting on her drinking strong coffee. The next day the only evil effect felt was a severe headache. This is, I think, the first case of opium-poisoning treated with nitro-glycerin.

CASE 10.—*Uræmic Coma.*—Mr. S., aged 45, by occupation a tin pedlar, has been afflicted with Bright's disease during the last six years, and catarrh of the bladder for a longer time. The present aggravation of his kidney disease was ushered in by a severe chill at night. He awoke with a pain in his back so severe that I was sent for, but was unable to reach his bedside until 2 o'clock the next day. By this time he was in so deep a stupor as to be aroused with difficulty, even for a moment. His body was cold and clammy; pulse 100, very feeble, thin like a silk thread. From his bladder was obtained one ounce of heavy urine. Having been placed in bed, he was then surrounded with glass fruit-jars filled with hot water, these being renewed every half hour. One drop of nitro-glycerin was given him every fifteen minutes for one hour, and then ordered to be given every hour until I returned four hours later.

My object in giving the nitro-glycerin in this case, where we had the pulse 30 beats above normal without the remedy, was not to strengthen the heart (much as that was desired), but that we might relieve the congested kidneys by opening wider the arterioles throughout the body, and thus enlarge the blood reservoir outside the kidneys. The engorged vessels of the kidneys were already extended to their utmost, and hence would not come under the influence of the nitro-glycerin. Four hours later I found him with his mind clear, he greeting me cheerfully as I entered his room; pulse 100, but full; body dripping with perspiration; kidneys had excreted a pint of urine; very little pain in his back, but a "sore feeling on his sides and arm." An examination of the place indicated revealed that the coma (stupor) had been so deep as to deaden all sense of feeling, and while in this state one of the bottles of hot water rolled against his side and arm, burning them nearly to a blister.

CASE 11.—*Nephritis.*—In several cases of chronic inflammation of the kidneys I have seen benefit result from the use of nitro-glycerin. In one case of a year's standing, the urine in two years became free from casts and even the faintest trace of albumen, and has remained free. The patient has been apparently a healthy man during the last five years.

Case 12.—*Death-beds.*—When we are called to rescue persons suddenly stricken with death, there is frequently the question in our mind: Is this death or only the approach of death? If the case before us is not death, but is the last faint throbbing of the heart, too feeble to be noticed by even trained ears, then nitro-glycerin, in the rapidity of its action, might cause an over-burdened heart to suddenly leap into new life. In one case, where the heart was growing rapidly feeble, the pulse ceasing, nitro-glycerin caused the heart to be relieved, the pulse to return, the patient to revive and live until the next day, when, while speaking to some friends, the heart suddenly ceased beating.

Drowning.—In cases where persons are apparently dead from drowning nitro glycerin is of great benefit, the heat to the body and the expansion of the chest not being neglected.—*Lancet.*

SALOL IN THE GASTRO-INTESTINAL DERANGEMENTS OF CHILDREN.

By Walter Lester Carr, M.D.

With the increased knowledge of the part that micro-organisms take in the origin of disease, our attention has been directed to the treatment of morbid conditions by agents that will destroy these low forms of life, or at least interfere with their development and growth. The antiseptics that are used in surgical procedures have been given trials by internal administration, and some of them have earned a permanent place in the treatment of diseases of bacteriological origin, as witness the administration of corrosive sublimate in diphtheria and of creasote in tuberculosis of the lungs.

More recently the condition of the alimentary tract in certain forms of catarrh has seemed to indicate, from our present view of the causation of these disorders of digestion, a trial of agents that will prevent the activity of micro-organisms. The advent of the synthetical drugs, especially of the carbolic acid series, has given an impetus to the treatment of disturbances of the alimentary canal sufficient to place us on a plane beyond that which we occupied when an opiate was considered the only drug to be used in a diarrhœa.

Physiological knowledge and pathological investigation are leading the way in the furtherance of a more advanced and scientific treatment of disease, and while every new drug does not deserve a permanent place in the Pharmacopœia, it at least merits our attention if its use produce any good effects. With the approach of the hot weather, a medicinal agent that will be of any service in relieving gastro-intestinal disturbances, especially in children, is worthy of our investigation.

Salol is one of the latest of the synthetical compounds that has been given to the profession for use in the disturbed functions of stomach and bowel caused by changes in the food, the formation of ptomaïnes and other products of decomposition and fermentation.

Salol, or the salicylate of phenol, was discovered by M. V. Nenck. It is a white powder, with an aromatic odor, but no taste. It is insoluble in water, soluble in alcohol, and slightly soluble in all organic fluids of an alkaline reaction.

It is made by substituting one atom of hydrogen of salicylic acid by the radical phenyl. Tate thinks that commercial salol contains thirty-six per cent. phenyl.

Administered by the mouth salol is probably not changed until it reaches the small intestine, where it is split up by the action of the pancreatic juice into salicylic acid and sulpho-phenol, which are eliminated through the urine. "The production of this decomposition in the intestine will explain its value as a powerful disinfectant in intestinal affections."

Lombard makes mention of this action of the pancreatic juice on salol, and that the activity of the drug depends more on the quantity of the pancreatic juice than on the amount of the drug. He instances the fact that, if the pancreatic duct be tied and the juice be cut off from access into the intestine, the drug remains without effect. In pathological conditions, therefore, where the quantity of the pancreatic juice is increased or diminished, the physiological action of the drug will vary accordingly.

The elimination of the drug in the urine causes it to assume a brownish or a dark-brown color (carbolurin), which, upon the addition of liquor ferri sesquichloridi, changes to a violet shade.

Osborne writes: "I have found 10 grains to be the smallest single dose that would produce the slightest darkening of the urine, and that dose but rarely. I have obtained a distinct reaction in the urine after only 1 grain was taken, showing the positiveness of salol breaking up in the intestine into its constituents and distributing its salicylic acid through the organism."

The experiments made with salol in cultivation broths have led Dujardin-Beaumetz and others to declare that salol is not an antiseptic, but it is probable that the negative results shown by salol in preventing bacterial development in tests are due to the insolubility and inertness of the drug unless broken up into its constituents.

The clincal value of salol in intestinal disorders appears to be uncertain, as observers are not agreed as to the effects obtained.

Osborne thinks that in 22 cases in which he gave the drug he did not have a single failure.

McCall used it with success in a severe case of colitis, with bloody, mucous stools.

Vansant reports eleven cases, two of them children, where the salol was administered, generally with bismuth, because of the gastric symptoms. All did well.

Goelet writes that the diarrhœa and dysentery of children in summer are more promptly relieved by salol than by anything else.

Brothers was not fortunate, for of 16 cases, all children, who afterwards reported, only three were positively cured.

Eichberg, after a trial of salol in various forms of intestinal troubles, but not in children, concludes that naphthaline is more efficacious in the same conditions.

During the past eighteen months the writer has made a trial of salol in 35 children who have been seen at the Out-Patient Departments of Bellevue and St. Mary's Hospitals. Unfortunately, it is impossible to give exact returns of these patients because the mothers of the children often failed to report after the first treatment. It may be assumed that they were not worse, or they would have been brought back.

The drug has been used in all the disorders of the stomach and intestine common to children, but with the most success in the cases of acute gastro-enteritis caused by improper diet or from temperature changes.

The dose and the mode of administration vary somewhat in different cases; the preference being to give the salol alone unless there is some particular reason for combining it with another agent. If the symptoms are those of acute gastro enteritis with the vomiting of milk, or of other food, and the movements from the bowels are ill-smelling, loose, and quite frequent, the administration of salol, while maintaining perfect rest of the stomach and bowels, will be all that is required. Should the vomited material contain bile and the stools have a lumpy, clay-like appearance, or be streaked with bile, the addition of a small quantity of calomel or of mercury and chalk, will bring about a quicker relief. This may be explained, partially, by the effect of the mercurial on the obstructed ducts of the liver and pancreas.

When the movements of the bowels become frequent and the discharges serous, the effect of the salol, besides the neutralization of the disagreeable odor, seems to be almost negative. It is seldom that the watery motions are lessened by the salol unless given in combination with opium or bismuth.

In dysentery and severe colitis salol exerts very little control on the tenesmus and bloody passages.

The dose of salol will depend much upon the requirements of the case.

For children under six months one-half grain every two hours for three or four doses will be found sufficient; between the ages of six and eighteen months half a grain to a grain and a half ; two years a grain and a half to two grains will usually be efficacious. The drug is best dispensed combined with some inert powder. Children take it readily if it is placed on the tongue or in a spoon. It never, so far as the writer is aware, causes toxic symptoms or any of the irritation of salicylic acid.

Abstinence from food that would continue the irritation of the stomach is of the same importance in the employment of salol as in the treatment of all disorders of digestion in children.

The conclusions drawn after the use of salol indicate that it is an easily administered, safe drug in the first stage of acute gastro-enteritis in children, and in the more chronic forms of entero-colitis, accompanied by slimy, bad-smelling evacuations. In the acute condition it is necessary to keep the stomach at rest and administer two or three doses of salol within five or six hours. For the more chronic state of catarrh it is best given in somewhat larger doses before meals. In frequent serous discharges and in colitis the salol does not produce the same good results as in the cases mentioned above, and its effect is uncertain, not being so rapid or so sure as an opiate.

In dysenteric disorders it cannot be relied on.

It seems, then, that salol acts best in morbid conditions due to fermentation and decomposition in the stomach and upper bowel, and that it diminishes in power as it passes through the large intestine.—*Archives of Pediatrics.*

ON THE RAPID CURATIVE TREATMENT OF CYSTITIS IN WOMEN.

By Thomas More Madden, M.D., F.R.C.S.Ed., etc.

The disease to the treatment of which I desire to invite your attention for a few minutes, namely, cystitis in women, is not only one of the frequent complaints that come before us in gynæcological practice, but is also admittedly most intractable to the methods generally relied on for its relief. Moreover, too often this condition, as Dr. Emmet has well observed, occasions an intensity of suffering both of mind and body, unequalled by any other infirmity to which the human body is subject. I therefore need offer no apology for here bringing under your consideration a method which I believe to be new, and which I know by experience to be generally successful in its rapid curative treatment.

Within the past year I have found my former contention with regard to the prevalence of cystitis in women, as well as the advantages of the method of dealing with such cases referred to, borne out by the fact that twenty-eight instances of this kind have come under observation in the gynæcological wards of my hospital; and that in nearly every one of these cases the patient was discharged free from the disease, which in some of them had resisted years of other treatment.

Causes of Female Cystitis.—As met with in our special branch of practice, cystitis frequently occurs as a complication or consequence of vulvular or vaginal inflammatory conditions—vulvitis and vaginitis, more especially when of gonorrhœal origin; or it may be due to mechanical causes, uterine flexions or displacements, and fibromata. Occasionally it results from the extension of renal disease, or from the irritation of gravel or calculi; as well as from cold, local injuries, reflex irritation, or simply from long delay in complying with the call of micturition.

Symptoms.—In women cystitis is, not only from the special causes incidental to the sex, more frequent than in men, but is also more urgent in its symptoms and more liable to lead to grave pathological consequences than is the case with the same disease in the latter. These symptoms and sufferings may, perhaps, be best illustrated by the history of a typical case of this kind.

F. G., aged 18, was admitted into St. Agatha's Ward, suffering from persistent, teasing, suprapubic pain, extending throughout the pelvis, and giving rise to tenesmus, as well as to almost continual desire (night and day) to pass water, with little or rather no relief on each occasion of so doing, micturition being attended with increased pain, straining and inability to void the last drops of urine. These symptoms had endured for nearly two years before admission, and had not been mitigated by the treatment employed during the time. This result was apparent in the physical appearance of the patient, who, from a plump, well-conditioned, good-looking girl, as we were assured she had been before the disease commenced, was now reduced to a wretched, careworn, cachectic-looking creature, to whom life was a misery. On examination the urethral orifice and canal were found patulous, and the mucous membrane extruding in a state of hypertrophic ectropium through the gaping meatus. The lining membrane of the bladder was in a similarly diseased condition, and its cavity and walls were so contracted and irritable, that it was not without occasioning considerable pain that we could inject an ounce or two of bland fluid, which was immediately ejected with spasmodic force. This is no over-wrought picture of a well-marked case of cystitis, such as may every day be met with in the gynæcological wards of any hospital. Moreover, the condition described is one that may, I believe, in most instances, be effectually and permanently relieved, as the case just described was, by a facile and rapid method of treatment, and without the necessity of resorting to the formation of an artificial vesico-vaginal fistula.

General Treatment of Cystitis.—Before describing the method now referred to, I may say a few words with regard to the general principles which should guide our management of these cases, as well as on the ordinary plans of treatment and palliative measures generally recommended in cases of cystitis in women. In the first place, then, it is obvious that in this, as in every other disease, our primary business is to ascertain and to remove, if it be removable, whatever may be the exciting cause of the morbid condition of the bladder. Thus, if the disease be dependent on extension of vulvar or vaginal inflammation, either gonorrhœal or non-specific, this must be at once allayed by appropriate treatment. If the cystitis be due to the mechanical pressure of a displaced uterus, this should be rectified by a suitable pessary. In the same way the weight of a uterine fibroid pressing on the bladder, if it cannot be otherwise got rid of, must be at least lifted well above the pelvic brim, and there maintained by the means which were pointed out in my "Lectures on Uterine Fibromata." If vesical calculus be present, or if, as should be ascertained by careful examination of the urine, renal disease exists, and has extended from the kidneys along the uterus, it will be useless to attempt the topical treatment of the consequent cystitis until in either instance its cause has been removed.

Presuming, however, the case to be one of uncomplicated cystitis, we have then an abundant choice of suggested remedial measures which (save that advocated by Dr. Emmet, to the grave objections to which I shall subsequently refer) are all, I believe, equally useless, as far as probability is concerned, of thus curing any extreme case of cystitis. Nevertheless, some of these measures are unquestionably of value as palliative expedients, and may possibly even prove curative in exceptionally mild cases of the disease. Of these the most generally useful in this way are long-continued warm baths, washing out the bladder through a double catheter with plain warm water, thin flaxseed tea, or a solution of boro-glyceride; conjointly in all instances with absolute rest in bed, free use of diluents, together with the administration of the old-fashioned Dover's powder in small, frequently repeated doses, as the best opiate in these cases; and lastly, above all, by the use of boracic acid in 10 or 15-grain doses three or four times a day, by which the generally fœtid ammoniacal urine is deprived of its fœtor and rendered less irritating to the endo-vesical mucous membrane.

Curative Treatment of Cystitis.—The measures just referred to, as already observed, may relieve, but *per se* will not cure well-established cystitis, nor am I aware of any method by which this result can be obtained except by primarily giving the diseased lining membrane of the bladder and its submucous muscular walls absolute physiological rest. This may be secured in either of two ways, namely, first, by that advocated by Dr. Emmet on the suggestion of the late Dr. Marion Sims, which consists in the formation of an artificial vesico-vaginal fistula through which the urine may drain away as fast as secreted, and by the consequent removal of the immediate source of irritation to the unhealthy and hyperæsthetic endo-vesical mucous membrane thus affords the patient a fair chance of escape from ultimate extension of the disease to the kidneys. The objections to this plan of treatment are, however, so grave as to render any rational alternative that may be suggested for attaining the same object by less heroic means deserving of fair consideration and full trial. These objections are, first, the general difficulty of keeping the fistulous opening patulous for a sufficient time to allow the diseased bladder to regain its normal condition; secondly, the irritation often occasioned by the button commonly employed for this purpose; and thirdly, the more serious trouble, which we meet with in some exceptional instances, of closing the fistulous opening when the desired object has been attained, and the consequent misery resulting from this mischance, by which the patient's last condition may thus possibly be rendered worse than her former state.

For these reasons I have abandoned this operation, and believe that we may obtain all its advantages more easily and more safely, simply by so thoroughly dilating the urethral canal with the instrument exhibited as to enable us to pass the index into the bladder, and thereby paralyze the contractility of the sphincter or of the canal for a time, which may be indefinitely extended by repeating expansion in the same way as often as may be necessary. It may, moreover, be advisable in some instances to remove the proliferating vesical mucous membrane by the cautious employment of a dull wire curette, such as that now shown, which I have used with advantage in cases of this kind. And, lastly, whether the curette be required or not, the method of dilatation just described should, in all cases, be conjoined with the topical application of carbolic acid to the mucous surface. The latter is best employed in the form of glycerine of carbolic acid of the "Pharmacopœia," which is quite strong enough for this purpose, and introduced by an ordinary stilette, armed with a piece of absorbent cotton saturated in the application, and passed through my dilator so as to avoid any of the acid being brushed off in the canal until it reaches the fundus vesicæ, where it should be retained for a couple of minutes until every part of the vesical wall contracts firmly upon it. The urethral canal is then to be similarly brushed out by another application of the carbolized glycerine. The pain caused by this procedure may be prevented by previously introducing in the same way a 10 per cent. solution of cocaine. I have only to add that, according to my experience, the plan of treatment now recommended seldom requires to be repeated more than two or three times, at intervals of a week, to effect a cure of even the most aggravated cases of cystitis in women.

Mr. Jessop (Leeds) reminded the meeting that several years ago Mr. Teale (Leeds) advocated the treatment of vesical irritation by dilatation of the urethra alone, without, that is, the application of any remedial measures to the interior of the organ. The cases were not few which, having resisted all topical and medicinal means, would at once yield to the operation of dilating the urethral canal. He himself was in the habit of using the well-known Weiss's three-bladed instrument, and of dilating to such an extent as to admit the introduction of his forefinger through the open blades of the instrument. It seemed probable that the curative result was due to the paralyzing effect upon the sphincter of the dilatation; which led to a temporary rest both of the sphincter and bladder.

Dr. M. A. Boyd said: Any new recommendation as to our means of treating this troublesome affection, we should certainly hail with pleasure. We should feel grateful to Dr. Madden for this new addition to our means of treatment for it. I cannot agree in the statement of the last speaker that dilatation of the urethra alone is sufficient. It is certainly useful, but will not prove sufficient in all cases; and the application to the cavity of glycerine of carbolic acid when the mucous membrane is diseased, as it is in some cases, ought to give relief by its anæsthetic properties.

Dr. Byers drew attention to the value of ascertaining whether any peri-uterine inflammation was to be found in these cases, as, when this was present, treatment with hot douches, glycerine pledgets, etc., would relieve the bladder distress. In other cases the constant use of a small catheter, just passed within the internal orifice of the urethra, was of great value by giving constant rest to the bladder. This plan might act through causing dilatation, but its great feature was that it gave rest to the bladder.

Dr. Heywood Smith hoped that Dr. More Madden would, in his reply, indicate the time recommended for the dilatation of the urethra, for he had seen cases often dilated too rapidly producing laceration of the urethral orifice and permanent incontinence.

Dr. Samuel Sloan remarked that whilst all the speakers agreed on the advantage of dilatation in bladder irritability, Mr. Jessop declared that dilatation alone was sufficient, whilst Dr. Madden insisted on further measures. Now these gentlemen referred to different conditions of bladder. There would be no doubt that in cases of simple irritability with healthy urine and healthy mucous membrane, no amount of other local or of constitutional treatment could avail. Here if you dilate, you at once, and in a great majority of cases, cure the affection. In cystitis, on the other hand, you required additional measures. As to time, Dr. Sloan said he usually occupied about fifteen minutes in the operation, and in no case had he any symptoms resulting.

Dr. Duke had the pleasure of seeing several cases of Dr. Madden's treated by his method with excellent results. He wished to say that it was exceedingly difficult to diagnose the cause of cystitis in young girls, but he had been able to trace the complaint in a few cases to masturbation, where the patient carried the morbid secretion from the vagina into the meatus, and thus set up an acute attack, which was much easier to produce than to cure.

Dr. More Madden, in reply, expressed the hope that the communication just read might induce other practitioners to give a fair trial to the plan of treatment he had recommended; and he ventured to believe that any who thus adopted it would probably come to the same conclusions as those arrived at by his friends Drs. Boyd and Dr. Duke, who, having witnessed his method of treating cases of cystitis, had in the foregoing discussion so kindly borne testimony to its successful results.--*British Medical Journal.*

INVETERATE PSORIASIS.—Swab the affected parts with oil of cade once daily for a week, after which discontinue a couple of days and reapply.—DR. GREENE *in British Medical Journal.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

Thomas F. Wood, M. D., Wilmington, N. C., } Editors.
Geo. Gillett Thomas, M. D., "

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A GREAT STEP FORWARD IN THE PROGRESS OF MEDICAL EDUCATION, INAUGURATED BY NEW YORK STATE.

New York, Pennsylvania, Massachusetts, Maryland, Kentucky, Illinois, Louisiana and South Carolina have held the key of the situation as regards the quality of medical education in the United States, and particularly the first named States, have had it in their power to settle all the requirements necessary for an adequate standard in medical education, and singularly enough they have been the States in which the strongest opposition or the greatest apathy to a fixed standard has been evinced.

It is true the difficulties have been great in the larger and wealthier cities of the Union, where wealthy charlatanry is a power, and we look with all the more gratification upon the action of the New York Legislature in enacting a law that requires an educational qualification as a prerequisite for a degree from a medical college, If this law is faithfully carried out in New York it will be a great step forward, and in this matter the whole country is interested. Next to a law separating the teaching and the examining bodies. none will be of more value to the profession of the whole country than an examination in general education before a medical degree is granted.

The law reads: "Before the Regents of the University of the State of New York, or the Trustees of any medical school or college within this State, shall confer the degree of Doctor of Medicine upon any person who has not received a Baccalaureate degree, in course from a college or university duly authorized to confer the same, they shall require him to file with the Secretary or recording officer of their university or college, a certificate showing that prior to entering upon the prescribed three years study of medicine, he passed an examination conducted under the authority and in accordance with the rules of the Regents of the University of the State of New York, in arithmetic, grammar, geography, orthography, American history, English composition and the elements of natural philosophy; and such certificate shall be signed by the Secretary of the Regents and countersigned by the Principal or Commission conducting the examination."

THE FUTURE SERVICE IN OUR ASYLUMS FOR THE INSANE.

Several years ago the Journal pointed out the defect in our Asylum management, in the neglect of providing for a succession of skilled physicians. This remedy was partially applied, but not in the spirit in which we made the suggestion. We have avoided making any commentary on the late troubles which have occurred at the Raleigh Asylum, believing it to be best to leave the whole matter to the judgment of the profession, who had facilities for seeing the newspapers with all the details. We feel, though, that we can enter into a discussion of the future service of our Asylums without any personal strictures, or without stirring up any of the ill-feeling which may have taken possession of the immediate actors in recent events. This question is superior to the individual interests of any one, but vitally concerns the welfare of the insane now and for future time.

The time may come in the history of any of our asylums when a competent man could not be found to take charge. It does not necessarily follow because a man is a good physician that he can conduct an asylum where expert knowledge is at once required. So far, in the history of our asylums, there have been only two Superintendents who have entered upon the responsibilities with any previous training, all the rest have received their education by actual experience, at the expense of the State, too, in one sense. Now, psychiatry must be a science of some consequence, if we have not been too proudly doting upon the expert acquirements of American alienists; there is a depth of learning in this business of caring for the insane, and the State ought to see to it that there are relays of young men coming on who can be accepted at once as experts, forever putting at rest the difficult tasks laid upon Boards of Directors.

The plan we suggest is as follows: The Raleigh and Morganton Asylums should each have two or three junior assistants, in addition to the present medical officers, and the Goldsborough Asylum two. These young men should be selected by competitive examination by a Board chosen from the Medical Society of North Carolina, the examination being as to morals, physical ability, medical education and special inclination for the peculiar work. For the consideration of a support and a salary of from five to six hundred dollars a year, they should agree to serve not less than three years, it being understood that they would be promoted in the order of their acquirements and adaptability for the work as vacancies occurred, these qualities to be determined by a Board of Examiners or committee chosen by the Directors of the Asylum.

This is the general outline of the plan, and we believe it would work well if conscientiously carried out. The State must either make her selections from non-residents in the future, or provide for the training of young men in order to secure experts in succession.

The expense attending this new departure would be insignificant compared with the ultimate good. It is very likely that some of our Asylum officers may have a more feasible plan than this, and if so, we would like to hear what it is, that the subject may be fully discussed before the session of the next Legislature.

AMERICAN PUBLIC HEALTH ASSOCIATION IN BROOKLYN, AND A SUGGESTION FOR NEXT YEAR.

This Association has for several years past met in the West, making it inconvenient or impossible for Eastern people to take advantage of its sessions. This year the wise selection was made of Brooklyn as a place of meeting, and we know from the interest that the profession of that city, led by Dr. Raymond, have given for the past year in its objects, that this meeting will be exceptionally good. It is no secret that the Association for some years has missed the Eastern blood, and the possible accession that will be made this year, will be very advantageous. We give a schedule of the meeting below:

"The Seventeenth Annual Meeting of this Association will be held in the Hall of the Brooklyn Institute, Washington and Concord streets, October 22, 23, 24, 25. Addresses of welcome will be delivered by Hon. Alfred C. Chapin, Mayor, on behalf of the city, and by Alexander Hutchins, M.D., on behalf of the Medical Profession. The following topics have been selected for consideration at the meeting: 1. The Causes and Prevention of Infant Mortality. 2. Railway Sanitation; (*a*) Heating and ventilation of railway passenger coaches; (*b*) Water supply, water-closets, etc.; (*c*) Carrying passengers infected with communicable diseases. 3. Steamship Sanitation. 4. Methods of Scientific Cooking. 5. Yellow Fever. (*a*) The unprotected avenues through which yellow-fever is liable to be brought into the United States; (*b*) The sanitary requirements necessary to render a town or city proof against an epidemic of yellow fever; (*c*) The course to be taken by local health authorities upon the out-break of yellow fever. 6. The Prevention and Restriction of Tuberculosis in Man. 7. Methods of Prevention of Diphtheria, with Results of such Methods. 8. How far should Health Authorities be permitted to apply known Preventive Measures for the Control of Diphtheria. 9. Compulsory Vaccination. 10. Sanitation of Asylums, Prisons, Jails and other Eleemosynary Institutions. Exhibition of sanitary goods and appliances in another large hall close by."

We have not conferred with the medical profession and citizens of that city interested, but we suggest Asheville as the next place of meeting. Asheville and the region about it has attracted the attention of sanitarians for many years, and if the citizens will consult their interests they can hardly hit upon a plan that would be more fruitful in results for the future of their town. The sanitary impulse that Memphis received was from this Association, and if Asheville could get anything like that much help it would easily be made to rank with the most desirable sanitarium in the country.

Let Asheville send some of her best citizens, who are interested in her future sanitary welfare to Brooklyn, and invite the Association to meet there October or November, 1890, and we believe it will be favorably considered. This JOURNAL and the State Board of Health will unite to accomplish this desirable end.

SEASONAL NOTES ON TYPHOID FEVER—ACETANILID.

Every season shows some variations in the form and course of typhoid fever. In the eastern counties we have few of the cases which would be classed as typhoid, after the classical descriptions, occurring during a season, but we believe that if Ehrlich's test is going to enable us to distinguish the disease positively, we will discover that many of the cases will prove to be genuine enteric fever, which are now doubtful because of the absence of rose-colored spots, diarrhœa and ataxic symptoms, these latter being most commonly wanting.

We desire to speak of some of the anomalies of the season. One patient in the practice of a confrére sickened and died on the sixth day, the peculiarity in the case, besides its rapid termination, being blebs of pemphigus on several parts of the body, especially the elbows.

Another patient, who was treated by the writer, nineteen years ago, for typhoid fever, was seized again with the disease, not only responding to Ehrlich's test, but having the characteristic temperature curve, but no rose-colored spots.

Another case was characterized by epistaxis from the beginning, the stains on the handkerchief and bed-linen showing the poverty of the blood. In the third week an intestinal hæmorrhage of about three pints occurred, reducing the temperature sub-normally, but marking also the beginning of the return to convalescence. There were no ataxic symptoms whatever in this case.

In another case; that of a child about 10 years of age, there was nothing unusual until the fever subsided, in the fourth week, when purpura hæmorrhagica supervened. There was bleeding from the gums, from the nose, and finally hæmaturia. The purpuric spots appeared first on the feet and legs, then on the arms, then on the trunk, then in the sclerotic.

Purpura hæmorrhagica as a sequel of typhoid fever cannot be very common, for in running through Index Catalogue we came across only five titles under the head of "Complications and Sequelæ of Typhoid Fever" touching upon it: (Constant purpura hæmorrhagica following typhoid, 1836; E. H. Greenhow, case of typhoid fever with hæmaturia, Trans. Clin. Soc., London, 1880; W. Hartigan, purpura hæmorrhagica with hæmorrhage from the bowels, *Irish Hospital Gazette*, 1874; Henrard, purpura hæmorrhagica, *Archives Med. belges*, 1865; Paroddi, Geneva, 1857, Epistaxis bleeding from gums, etc.; C. Pirtle, purpura gangrenopsis succeeding typhoid fever, 1850.)

When it is remembered how impoverished the blood is from typhoid fever, it would not be surprising to have purpura hæmorrhagica a common sequel instead of a comparatively rare one.

This writer determined that, as far as possible, he would refrain from the use of antipyretics this season, and allow the disease to take a somewhat uninterrupted course, but he was convinced that the antipyretics were very desirable to reduce nervousness of the patients, and he believes that the use of acetanilid, which was the only one employed, made a break in the temperature curve, and if not shortening the disease, surely giving the patient great comfort. We are decidedly of the opinion that it is the best practice to resort to antipyretics to keep the temperature below 103 F., and any rapid reduction and diminished cardiac energy can easily be brought up by some alcoholic, which for many other reasons is desirable.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

The following is a list of the officers of the session of the Southern Surgical and Gynecological Association, to be held in Nashville, Tenn., November 12, 13 and 14, 1889:

OFFICERS.

President—Hunter McGuire, M.D., LL.D., Richmond, Va.

Vice-Presidents—W. O. Roberts, M.D., Louisville, Ky.; Bedford Brown, M.D., Alexandria, Va.

Secretary—W. E. B. Davis, M.D., Birmingham, Ala.

Treasurer—Hardin P. Cochrane, M.D., Birmingham, Ala.

Judicial Council—John S. Cain, M.D., Nashville, Tenn.; W. T. Briggs, M.D., Nashville, Tenn.; J. M. Taylor, M.D., Corinth, Miss.; De Saussure Ford, M.D., Augusta, Ga.; Virgil O. Hardon, M.D., Atlanta, Ga.

Chairman Committee of Arrangements—Duncan Eve, M.D., Nashville, Tenn.

DISINFECTING INFECTIOUS FÆCES, such as of persons having cholera, typhoid fever or other contagious diseases, has occupied the time of Uffelmann, and as a result of his studies he publishes the following, which merits attention as it is the first work of its kind giving definite directions: To thoroughly disinfect liquid or nearly liquid fæces, the author recommends to mix them either with an equal amount of sulphuric acid diluted with 2 parts of water and allow to stand for 2 hours, or to mix them with an equal volume of hydrochloric acid diluted with 2 parts water and allow to stand for 12 hours. If it is desired to use 5 per cent. carbolic acid, an equal part should be added and allowed to stand 24 hours; if sublimate solution, an equal volume of a solution of 2 g. sublimate, 0.5 g. hydrochloric acid to 1000 c. cm. water is allowed to remain in contact with the fæces for at least half an hour, but rather 24 hours. Quicklime recommends itself sometimes for practical reasons, but a fresh preparation is necessary and in quantities of 2.5 g. to 100 c. cm. and 24 hours' contact. The quantities of the above disinfectants to be used to disinfect more solid fæces and the length of time contact is necessary, is yet to be ascertained. Hot water, which has been propossd as an appropriate disinfectant, is not reliable.

REVIEWS AND BOOK NOTICES.

INEBRIETY: ITS ETIOLOGY, PATHOLOGY, TREATMENT AND JURISPRUDENCE. By NORMAN KERR, M.D., F.L.S. Second Edition. London: H. K. Lewis, 136 Gower Street, W. C., 1889.

Few of our readers have not already heard of the writings and speeches of the author of this volume, but there may be many who do not know of this volume. It is a small 8vo. of 470 pp., divided into 23 chapters and an appendix, with marginal paragraphic synopses, greatly facilitating consultation.

The caption of the first chapter—Inebriety a Disease—gives the key and foundation of the whole treatise, and it has "reference only to those in whom either the habit of drinking, or some inherited or other cause, has manifestly set up the diseased condition we designate as inebriety, the characteristic symptom of which is an overpowering impulse to indulge in intoxication at all risks." In the same connection he says: "I trust no one will imagine for a moment that I desire to weaken the force of clerical rebuke of the vice and sin of intemperance, or to impede in the least the noble work in the rescue of the intemperate by the army of Christian abstainers, of whom I am not ashamed to own myself."

Dr. Kerr has given us the word Narcomania, which he holds as the equivalent of inebriety, or rather, Narcomania is a mania of narcotism of every kind, an inexpressibly intense involuntary morbid crave for the temporary anæsthetic relief promised by every form of narcotic." "The morbid impulse and crave of inebriety are not for inebriating agents for their own sake, but for the temporary relief of the inebriate nervine agency afforded by them."

The forms of inebriety described by the author are embraced in five chapters, and is a faithful portraiture, much of which can easily be duplicated from the experience of a physician of a few years' practice. The etiology and pathology of inebriety are next considered, and here we find grouped together a vast amount of material which will be food for thought for many who are anxiously studying the question. Even for those who cannot agree with the author about the cause and morbid phenomena of the so-called disease, may be able to accept it as a working theory.

When the author comes to treatment, we can follow him with more confidence. He evidently believes in the entire abstraction of alcohol in every shape, and declares that "all alleged" cures are "deficient in nerve restoration and moral renovation—that nostrums are not needed—moral and physical treatment are required—his whole course being conservative and practical. The acidulated infusions and deductions of bark as a tonic, especially one known as "cinchona febrifuge," made by exhausting the dry bark with successive portions of dilute hydrochloric acid, and precipitating the resulting liquor with excess of caustic soda, the precipitated alkaloids collected on filters, washed, dried and powdered. This product is then dissolved in a quantity of acid sufficient to take up the alkaloids, filtered from some insoluble coloring matter, and the solution again precipitated. If it is powdered and taken in lemon juice, it is a pleasant drink. We think, practically, the author might, by a shorter process, administer muriate of quinine for the same purposes. The writer can add, that he has seen one formerly incorrigible "inebriate" filling the measure laid down by Dr. Kerr for the disease, cured of the liquor crave by the administration of the decoction of quassia.

The medico-legal aspects of inebriety can be usefully studied› because here is set forth the struggle which the friends of the cause have had in securing the appropriate legislation. The same struggle, with the difference of the laws of the two countries, may be expected when we come to bring the matter of the care of the inebriate before the Legislature of North Carolina, and familiarity with the British and Colonial regulations may furnish much that is valuable.

We put Dr. Kerr's book aside with the feeling that if we were to spend much more time upon it, we would be converted to his way of thinking, and this must be considered as high a compliment as we can give it.

"THE PHYSICIAN HIMSELF." By D. W. CATHELL, M.D. Ninth Edition. J. A. Davis, Philadelphia, 1889.

Some very good judges of books in their reviews on the first issue of this volume regarded it as a jejune performance; but there has been no more successful venture than this in many a year. Forced to be his own publisher, if we remember correctly, the author has lived to see his little foundling able to hold its own among its bigger brothers, and now there is hardly a medical library of 50 volumes which does not boast of "The Physician Himself," almost surely he cannot be a reader of this JOURNAL.

It is not necessary in this latitude, where there are so few homœopathic doctors, to quote what Dr. Cathell has to say about this medical sect, but we give one paragraph :

"Now, any man, with but one eye, even, can see why there will be protestant bakers and catholic gardeners, baptist laundresses and quaker boot-blacks, vegetarian blacksmiths and presbyterian shoemakers, spiritualist bankers and masonic carpenters, odd-fellow bricklayers, republican barbers and democratic bakers, homœopathic doctors and swedenborgian undertakers, as long as there are people who wish to employ dogmatists in these things; but certainly no sensible person wants an allopathic physician, consequently no thinking man professes to be one, and we should not let our enemies put us in that cage; but there is, and ever will be, everywhere, a demand for RATIONAL physicians who will do for their patients whatever under heaven seems best, without regard to creeds and 'pathies. Away from us, then, at once and forever, with the false title, "Allopath."

To the physician who has discovered that there is something else besides dry book learning needed to make him a desirable visitor at the bed-side, we commend this volume, that he may assimilate some of the ready crystalized worldly wisdom which otherwise he may be many years acquiring by natural processes. This new edition is now sold at $2.00.

PUBLIC HEALTH PAPERS AND REPORTS. Vol. XIV., presented at the Sixteenth Annual Meeting of the American Public Health Association, Milwaukee, Wis., November, 1888. Concord, N. H., 1889. Pp. 306.

This volume may not be up to the usual fullness and excellence as regards the matter contained therein, but not at all below its fellows in typographical appearance. In no sense do we mean that this is not a very valuable issue of the series of transactions, and we desire to say to those who know nothing of the work of this Association, that it is the foundation and origin of the sanitary teaching and practice of this country, and must be the text-books of sanitary students for years to come.

From the contents some of the more important topics may be selected to illustrate the scope and practical character of the contributions : "Proposed Plan for the Disposition of Night Soil, Garbage, etc., at St. Paul, Minnesota, by Henry F. Hoyt, Commissioner of Health"; "Problems in Regard to Yellow Fever and the Prevention of Yellow Fever Epidemics, by Jerome Cochran, M.D., State Health Officer of Alabama"; "The Outbreak of Yellow Fever at Jacksonville, Miss., by Wirt Johnson, M.D., Secretary Mississippi Board of Health"; "Some Observations on Yellow Fever and Its Habitudes, as opposed to the Fallacies and Dangers of Personal Quarantine, by A. N. Bell, M D."; "The Origin and Prevention of Tuberculosis, by D. E. Salmon, D.V.M."; Several papers describing the quarantine of the Middle Atlantic Coast, that of Louisiana, of Canada, of Texas, of Boston, and a paper by Dr. J. H Rauch, on "Yellow Fever Panics and Useless Quarantines—Limitation by Altitude and Temperature"; "Garbage Furnaces, and the Destruction of Organic Matter by Fire, by S. S. Kilvington, M.D., Minneapolis"; "Some Observation on the Origin and Sources of Pathogenic Bacteria, by Theobold Smith, M.D., Bureau of Animal Industry"; "The Flushing Tunnel at Milwaukee, by George H. Benzenberg."

Dr. A. N. Bell's observations upon the friendly refuge which Hendersonville offered to the refugees from Jacksonville is justly complimentary, and is made to point an argument which he has maintained vigorously for many years, and with good show of common-sense, that yellow fever "is non-contagious from person to person independent of *fomites*, uncommunicable to places, except under favoring conditions of climate and locality, and the *poison* (without regard to its essential nature) eliminable before culmination by the *vis medicatrix naturæ*, under timely change to healthful surroundings."

In the list of papers above we omitted the report of the Commitmittee on the Pollution of Water Supplies, read by Dr. Charles Smart, U.S.A., but it is a paper that must be read by every one interested in public water supplies. Just one item we wish to reproduce, and ask pardon of the author for so dislocating his well arranged facts :

"When wooden tanks, as at New Orleans, and other Southern towns, are used for the storage [of water] it is a common occurrence for the analyst to find water of poor quality in new or recently cleaned cisterns, while water of a much better quality is discovered in those that have not been cleaned for a year or two, and have a fermenting sediment a foot or more in depth covering their floor. The nitrifying agencies accumulate with the sediment, and, notwithstanding the sediment, they succeed in reducing the organic matter of the water to the inorganic condition. The "sediment is thus an advantage, but the end is better accomplished by keeping it out of the cistern and introducing the bacterial workers through the medium of a layer of clean gravel or sand."

It is only necessary to add in our comments upon the value of this book and the whole series, of which it is a very respectable unit, that the sanitarian who is groping his way without the valuable library which the American Public Health Association has produced, is denying himself essential light, and has not yet attained to the full measure of a first-class sanitarian.

Wood's Medical and Surgical Monographs.

The August issue contains "The Treatment of Syphilis at the Present Time, by Dr. Maximillan von Zeissl"; "The Treatment of Inebriety in the Higher and Educated Classes, by James Stewart, B.A."; "Manual of Hypodermic Medication, by Drs. Bourneville and Bricon."

We accord these monographs a most hearty welcome, as containing some of the most valuable contributions in current medicine. The three papers in this number of Volume III are of absorbing interest, and especially this manual of hypodermic medication supplies a need in our literature, nothing on this subject having appeared since Bartholow on "Hypodermatic Medication," 1882, and the somewhat popular works of Kane, now almost relegated to the dead volumes of one's library.

The subscription to the "Monographs" is $10 a year or $1 a single number,

CURRENT LITERATURE.

THE USES OF [OIL OF] TURPENTINE AND SCRAPING IN UNHEALTHY WOUNDS.

By W. Mitchell Banks, F.R.C.S., England, Surgeon Liverpool Royal Infirmary, Professor of Anatomy, University College, Liverpool.

Some dozen years ago or more, I was asked by that very shrewd old surgeon, the late Mr. Long, if I ever used turpentine. I said, No. Did I know any surgeons who did? I was obliged to confess I did not; and then he told me that the sooner I used it the better, for there was no better styptic, and no more certain cleanser of old or foul wounds. I have ever since made constant use of it, and have spoken many surgeons concerning it. They all know everything about it, but I have found that they don't use it.

One great reason why turpentine dropped out of common surgical use was the introduction of perchloride of iron as a styptic. I cannot say how the iron acts in a diluted state in arresting uterine hæmorrhage; I know that many obstetricians think highly of it. But, applied strong as a styptic to open bleeding wounds, or as a packing to cavities from which hæmorrhage is coming, I believe it to be the worst styptic that can be used. As a mere stopper of the bleeding I admit that it is very effectual, but then look at the condition of the wound left by it after a few days! It is especially dangerous when employed by the prescribing druggist. I have seen some dreadful hands as the result of its use. Let me give an outline of the sort of case. A boy, carrying a jug, falls and gets a slash across the palm, from which the bleeding is profuse. Rushing to the nearest chemist, that gentleman treats the injury according to the best of his lights. The wound is first swabbed out with perchloride of iron; then a plug of lint, soaked in iron, is jammed into it; and then a pad is put over the plug and a bandage applied firmly over all. In twenty-four hours the pain becomes very severe, and by the second day the boy is feverish and in great distress; so the wound has to be looked at. This is a very painful process, because the dressings stick fast to it. Black masses, difficult of separation, adhere to it over most of its surface, while at other places beneath these are collections of dirty, purulent fluid. No sooner is the black cake taken away than the bleeding commences again, and so the wound is rapidly sponged out, and a fresh swabbing and packing with iron resorted to. Then the pain recommences, the arm begins to swell and feels hot, while red streaks run up it. The patient is in a high state of fever, and almost delirious. At this stage it is deemed prudent to send him to hospital. Now, this is not by any means an imaginary picture. I have seen several such cases, but it is drawn from one in particular, where I remember I had to tie the brachial artery. The palm of the hand was literally torn up with pus and clots, rendered hard by the iron, and was simply rotten. The bleeding being practically stopped by the ligature of the main artery, I thoroughly cleansed the cavity, and lightly packed it with absorbent cotton wadding saturated with turpentine. On the second day the plug came out easily, a thin layer of healthy pus lay beneath it, and the cavity was covered with red, clean-looking granulations.

In opening the urethra in the perineum, it sometimes happens that the hæmorrhage is very sharp. As often as not, it does not occur so much at the time of operation as after the patient has got warm in bed. The only remedy is plugging, and here the turpentine will be found of great service. Again, in severe operations about the rectum for extensive fistulæ, plugging is the best surgical proceeding to arrest bleeding. Sometimes, again, after large putrid abscesses have been opened, very severe hæmorrhage comes from their interior, requiring them to be packed. Now, the use of perchloride of iron under these circumstances is productive at once of a great deal of pain and a great deal of mess. If you use turpentine you will find your plugs come out easily and comfortably to the patient, while the surface left behind is clean and wholesome.

The other day a man came into the ward to show himself. He had an excellent stump from an amputation above the knee, and wanted to see about an artificial leg. Some months previously he came into hospital in a deplorable condition. His knee-joint was hopelessly destroyed, and the tissues all round it were absolutely rotten, with putrid abscesses and sinuses burrowing all about it. He was delirious, with a dry tongue and a high temperature—evidently in a state of septicæmia. Immediate amputation was his only chance, and that a poor one. The actual removal was accomplished with all rapidity, only the main artery and one or two others being tied. The space between the flaps was then loosely filled with lint soaked in turpentine, and the flaps brought down over them without any stitches at all. A towel was wrapped round the limb and the patient put to bed. On the second day the anterior flap was lifted up, the turpentine was pulled out and fresh replaced. After a few such dressings the interior of the wound was quite clean, and the flaps were allowed to flap together, and trained into shape by a light wire splint. If a long time had been spent over the operation, or if the flaps had remained putrid, the man must infallibly have died, so exhausted was he at the time of operation. I have done this several times where it has been necessary to amputate through diseased tissues.

Some agents, like the perchloride of iron, are admirable styptics, and some, like iodoform, chloride of zinc and carbolic acid, are most effective antiseptics; but I know of no remedy which combines the two properties to the same extent as common turpentine, while at the same time acting as a direct stimulant to healthy granulation. The only objection that may be urged against its use is that it may be painful. Its use is attended with much less pain than would be imagined *a priori.* In the case of a clean cut wound it is painful for some hours, but its application causes no suffering at all in the case of old wounds, sinuses, or abscess cavities. The single word of caution in employing it, is to see that it does not come on the skin, which it of course blisters; and most of the pain which I have ever seen attending its use has been caused by careless plugging, whereby the drug was left in contact with the skin.

To sinuses and chronic suppurating cavities or surfaces mechanical surgery has been most advantageously applied, in the way of scraping them clean from the unwholesome granulation tissue which covers or lines them. Many of us will remember that we first became acquainted with this tissue under the name of "Pyogenic Membrane," a name which in itself sounded sufficiently dangerous to prevent any rash meddling with it, and which possibly contributed to the fact that it was always very gently treated by minor caustics or stimulating lotions, in place of being swept away. Volkmann's spoon seems to me to be one of the most useful and modern inventions; of more real service than all the endoscopes that ever were invented. It has revolutionized certain departments of minor surgery. Let us take an instance: A man left the infirmary the other day sound and well. About a month previously he had been admitted with his buttocks riddled with holes. He was the victim of very bad anal fistulæ. He had already been very considerably cut up by an able surgeon, but in spite of that, more abscesses and more sinus tracks had formed, and the old cuts showed hardly any signs of healing. Many weeks had passed in this way. Immediately on admission he was anæsthetized and put in a good light in the lithotomy position. Every track was then followed out, slit up, and scraped, and every old incision scraped clean also. Finally, they were all carefully packed with turpentine lint, and left for two or three days. At the end of that time the plugs all easily came out, leaving red surfaces which rapidly healed up.

By means of scraping a great future is opened out for the treatment of these most troublesome cases, strumous cervical glands. I confess that the old ideas of constitutional taint which I had been taught about strumous glands had so firm a hold upon me that it was a long time before I could be got to appreciate the value of direct surgical attacks upon them. Syrup of iodide of iron, cod-liver oil, and a lotion of some sort was the regulation practice. But now-a-days these same glands are shelled out or opened and scraped with the most admirable results. From being among the most hopeless of the affections seen in the hospital out-patient department, they are now satisfactory objects of treatment. Of old the softened gland was too often allowed to burst spontaneously, the blue, thinned skin then sloughing or curling up and leaving an unsightly cicatrix—a life-long vexation to the patient if a female. But, now, so soon as a gland is soft, we cut into it, scrape it out, fill it with an antiseptic (say turpentine), and then drain it with a little tube. A mere line is all that is seen by way of mark. The sooner all such glands, when once believed to be genuinely tubercular, are either removed or scraped out the better, because there can be no doubt of the direct spread of infection from one gland to another.

How often do we find one side of the neck, all the way down, a mass of hardened glands, while the opposite side is absolutely sound and free from disease! Whether it is a bacillus or not that sets up the mischief, and whether the bacillus gets into the cervical glands *via* the tonsils or by the way of carious teeth, are points not as yet absolutely settled. But at any rate, the theory is a very encouraging one, and helps one to cut out and scrape out tubercular glands with a great amount of faith and hope—which is rapidly being made into certainty by enlarged experience. So that the best method of treating a softening strumous gland with which I am acquainted is as follows: Give the child chloroform. Make a very small hole in the gland with a tenotomy knife, and introduce a small Volkmann's spoon. Scrape out everything that can be got out by scraping, and squeeze and press the cavity. When nothing more can be got out, fill the cavity with a long, narrow strip of lint dipped in turpentine, poking it through the small hole with a probe. At the end of two days pull out the lint and introduce a drain-tube. Pass a needle and thread through the tube on a level with the skin, and then slip over the tube a circular piece of plaster with a hole in the center and having its margin nicked. Cut the tube short off and tie the ends of the thread over the plaster. The tube is then rendered immovable. Over it may be placed a little bit of absorbent cotton wadding dipped in antiseptic lotion, and covered in with a bit of jacquonette. After a few lessons the child's mother or nurse will learn to wash out the cavity with a syringe morning and evening and to apply the dressing, as well as to take out the tube, clean it, and replace it every third day or so. By waiting patiently until the tube is literally pushed out of the cavity, a mere white spot is frequently the only remaining evidence of what has been done. If a depression or dimple remains, it can be afterwards elevated by loosening the cicatrix from the subjacent tissues by a tenotomy knife.

In the excision of joints scraping is of the utmost value. The tedious delays which formerly rendered an excision of the knee-joint, for example, such a wearisome job, are now greatly diminished. With the curved scissors all the thickened gelatinous synovial membrane, which was bound to perish before any healing could take place, is clipped away, while every burrowing sinus is scraped clean, and all suspicious places on the cut surfaces of the bones are punched out with a strong spoon, just as one would punch a decayed bit out of an apple.

The bubo, too, is deprived of many of its terrors. A gentleman came to me yesterday (Tuesday), for instance, with one on each side. From their history and appearance it was clear that they must go on to suppuration. I told him to poultice them and keep at his occupation, which he was most anxious to do. On Friday they ought to be soft in the center. I purpose then giving him an anæsthetic, cutting them across vertically, scraping out the broken-down tissue, and packing them with turpentine lint. My expectation is that he will be at work again about Tuesday with two clean granulating wounds.—*Liverpool Medico-Chirurgical Journal*, July, 1889.

A CASE OF RATTLESNAKE BITE, SEEN TEN MINUTES AFTER THE ACCIDENT—RECOVERY.

By W. M. Memminger, M.D., of Charleston, S. C.

As it is not usual for a physician to see a case of this kind so soon after the infliction of the wound, and as the result of my treatment was so satisfactory, I take this opportunity of presenting the case to my colleagues in the profession:

The patient was a colored laborer of about thirty years of age. While engaged in cleaning some brushes away he was struck in the foregnger of the right hand, the fang of the snake entering the side of the finger, at about the middle of the last phalanx. Seeing that it was a rattlesnake which had bitten him he gave a cry for help, and ran toward some of his fellow-laborers, a distance of about fifty yards. By the time he had reached them he fell, in an unconscious condition. One of the men had the presence of mind to put a ligature tightly around the wounded man's arm, above the elbow, and a half pint of whiskey was poured down his throat; he was then brought immediately to my office—the whole time, as well as I can judge, not being ten minutes before he was presented to me.

The arm, by this time, was enormously swollen; whether from the ligature or from the poison, I do not know, but I think from the poison. The patient was completely unconscious; pulse, 30 to the minute; respiration slow; extremities cold; and involuntary evacuation of the bowels. To all appearances there was no hope, and I must say I was somewhat at a loss to know what to do. I made a free incision, down to the bone, through the wound, cutting both vein and artery of the finger; I then applied Esmarch's tourniquet, just below the shoulder. After having applied this, thinking that perhaps it might be well to try to drive as much blood out of the arm as possible, I applied Esmarch's elastic bandage, beginning from below the tourniquet and descending; this seemed to act well and bled the arm very thoroughly.

There are certain facts just here which I think are worthy of mention. The tissues through which I cut were almost black in color, and the blood extracted from this arm failed to coagulate. In all he bled about a quart. I also resorted to a method which I have seen recommended—that is, of injecting into some of the larger veins a solution of ammonia in water 1–3 : 20 minims every half hour; this I injected into the median basilic, twice during the first hour and afterward one after each collapse. The next theory I carried out was giving the patient the poison gradually.

In about an hour's time after he was brought in to me he had recovered almost entirely—so much so that he was able to sit up and talk with his friends. I now tried the process of giving the poison. I loosened the tourniquet; no sooner had I done this than he fell into an unconscious condition and apparently in as dangerous a state as before. The tourniquet was loosened for, I suppose, not more than three beats of the heart. This alarming and dangerous condition was caused, I presume, from the effects of the poison, the effects of the whiskey having worn off several times during the day, the man being perfectly sober in the intervals between the periods of collapses, produced by the slackening of the tourniquet. This process I repeated six times within seven hours, the patient rallying each time within an hour. At the end of the seventh hour the tourniquet was removed entirely, the wound dressed with boracic acid and the man removed to his quarters, partially delirious.

He was bitten on Saturday morning, and on Monday morning he walked to my office to have his finger dressed. The hand had a somewhat erysipelatous appearance and pained him considerably, but in no other way did he feel any bad effects.

Erysipelas did not set in, and in a few days he had completely recovered. The snake was killed a few minutes after the accident, and proved to be a rattlesnake about two and one-half feet long.—*Medical News.*

Dr. Wm. R. Wood, of Scotland Neck, has been chosen to succeed Dr. Grissom as Superintendent of the North Carolina Insane Asylum, and Dr. J. R. Pearsall to succeed Dr. Rogers.

CURRENT NOTES.

For Ringworm.—A 1 in 4 solution of biniodide mercury in iodide of sodium, thus: to ʒ ss. red iodide mercury add half ounce of a 1 in 4 solution of iodide of sodium in water and dissolve. Dilute this strong solution with three parts of water, and apply thoroughly with camel's hair brush: if "too thoroughly" done it sometimes blisters.—*Dr. Illingworth in Brit. Med. Jour.*

Worldly Wisdom.—Professor Charfentier, Paris, gives the following advice to physicians, as to the most prudent answer to be given when asked what they think the sex of the child is going to be: "Reply by asking the mother what she would prefer in the child, and then give it as your opinion the opposite is the one to be looked for. In this way, if the sex turns out to be the one you have prognosticated, you will be thought a wonderful man, while if it proves to be the one the mother has wished for, she will be so pleased that she will easily overlook your error.—*American Practitioner and News.*

The Maximal Doses of New Remedies.—The following are the *maximal* single doses of some of the newer remedies as mentioned in *Merck's Bulletin* for June: Asparagin, grs. 1½; baptisin, gr. ½; daturine, gr. 1-64; duboisine, gr. 1-64; fuchsin, grs. 4; agaricin, gr. ¼; aloin, grs. 4½; antifebrin, grs. 15; apiol, grs. 15; arbutin, grs. 15; guaiacol, grs. 1½; iodole, grs. 3; iridin, grs. 3; kairin, grs. 15; naphthalene, grs. 15; phenacetin, grs. 15; resorcin, grs. 45; salol, grs. 20; solanine, grs. 1½; sulphonal, grs. 60; terpinol, grs. 4½; urethane, grs. 75; xylol, grs. 39; paraldehyde, grs. 60.— *Canadian Practitioner.*

Conclusions as to the best Agents for Sterilizing Feces.—The best disinfectants to use are the bichloride with hydrochloric acid, the bichloride with potassium permanganate, and the chloride of lime. Five per cent. solutions of carbolic acid and two-tenths per cent. solutions of the bichloride are unreliable, even when used in the proportion of one pint to every 100 c.c. of dejection. Emphasis needs to be laid on the necessity of thorough disintegration of the fecal matter by stirring with the disinfectant, and on the necessity of allowing the mixture to stand four hours at least before emptying. For continued use the bichloride solutions would injure lead pipe, while if used for a few days only, probably no injury would result. For long-continued use, where the dejections are thrown into a water-closet, chloride of lime is undoubtedly the most available disinfectant. Solutions of chloride of lime should be kept tightly corked and should not be used after they are one week old.—*Amer. Jour. Medical Sciences.*

THERAPEUTIC ACTION OF SENNA PODS.—Dr. A. W. McFarlane directs attention to senna pods, an old remedy, for the relief of constipation. He finds that they have many of the advantages of senna leaves, without some of their inconveniences. The taste and odor of an infusion of senna leaves are nauseous, its administration is so commonly attended by griping, tenesmus and flatulence, that it is seldom prescriped except in conjunction with a carminative. The disagreeable symptoms are more marked if the leaves are infused for a long time. An infusion of the pods, on the other hand, is almost free from taste and smell; certainly it is devoid of the characteristic odor and flavor of senna. It is slower in its action than an infusion of the leaves, but equally certain. An ordinary dose produces without fail one motion, seldom more, of soft consistence, in from eight to ten hours. It is, in short, a reliable evacuant, free from irritating properties, such as cause griping and flatulence. After a fairly extended experience in its use it has not been disappointing in its utility in any one case; nor has it produced untoward effects. The dose for an adult is from six to twelve pods; for the young and very aged, from three to six. They are best infused in a claret-glassful of cold water for six or eight hours. A liquid extract has also been prepared.—*Lancet.*

EDITOR OF THE "BRITISH MEDICAL JOURNAL" ON DR. T. K. CHAMBERS.—Dr. T. K. Chambers was cut short in his professional career by a lamentable accident—an aneurysm which was refractory to ordinary surgical proceedings, and necessitated amputation of the leg. None of his friends and colleagues at St. Mary's Hospital will forget his cheery courage and manly determination to continue his hospital work, of which the clinical side was very dear to him, as long as his strength permitted. He inherited the best professional traditions from his celebrated uncle. His fresh and vigorous teaching, his picturesque power of expression, his high-bred courtesy and manly frankness, made him very popular with the students in the early days of St. Mary's. "King Tom" he was called, in allusion to his stately bearing, as well as to some of his genealogical pretensions. He was a trustworthy and agreeable colleague, and did much to lay the foundation of the remarkable success of that youngest and very flourishing metropolitan school. Of his writings, the clinical lectures which he somewhat fantastically entitled "The Renewal of Life"—a title which gave umbrage—and his *Manual of Dietary* were the most notable. His later work, done at the General Medical Council, after retirement from practice, was meritorious, laying the foundation of the subsequent steps against repression of practising "under cover," and of the abuse of "unqualified assistants." He belonged to a generation which is fast passing away, but which has left honorable traces in the history of metropolitan medicine.—*Brit. Med. Jour.*

Chloramide as an Hypnotic.—At first sight it seems as if we were already provided with a sufficient number of hypnotics, but more careful study reveals the fact that some of them act very slowly, though more prompt in their action, have accompaniments which form contraindications. For any special case we are apt to find that the choice is not as large as imagined. Among many recent hypnotics this one is brought forward with less than the usual flourish of trumpets which herald forth the birth of a new drug. From the account given of its use in Professor Strümpell's clinic, in the *Münchener medicinische Wochenschrift*, No. 31, 1889, it may prove to have some qualities not possessed by the other members of this class. Chloramide is an addition-product from chloralanhydride and formamide. It is a white crystalline body, of somewhat bitter taste; it is decomposed in alkaline solutions, and is, therefore, best given in a slightly acid one. It may be given in wine, as it is readily soluble in alcoholic solutions. It dissolves in nine parts of water. The dose is 30 to 45 grs., and in Germany this would cost about three cents. It seems to be best adapted to cases where there is not much pain; in cardiac affections, in neurasthenia, in diseases of the cord, and in phthisis it has proved serviceable. Out of 28 cases it was efficacious in all but 2 or 3. Compared with chloral, it is reported as being the stronger hypnotic; its taste is better and the accompanying symptoms are less. In one case collapse was observed, but it was not certain that it had been brought on by the drug. A slight pain and fulness of the head after waking seem to be the only after-effects. Thirty grains is a sufficient dose, especially for women; in severe cases, 45 grs. is a suitable amount, given in capsules or in wine. No unpleasant action on the circulation, respiration, temperature, digestion, or on the secretion of the urine was observed. The experience thus far with chloramide warrants further trial, though, like many other remedies, the disadvantages of its use will be more apparent with a very large experience. Dr. Reichmann (*Deutsche medicinische Wochenschrift*, No. 31, 1889) began the use of chloramide by giving doses of 15 grs., and obtained very varying results; with doses of 30 grs. the action was better, and with 45 grs. still more satisfactory. When the drug was administered in the daytime and was not followed by sleep, the patients complained of headache. In severe cases the patients felt tired and sleepy after waking in the morning. It does not seem to have a depressing action on the circulation. In short, this observer considers chloramide a very serviceable hypnotic with few drawbacks. Dr. Erich Peiper has also found chloramide a useful hypnotic. Sleep is induced by it in from a half to one and a half hours, in doses of from 30 to 45 grains. In many patients it causes headache, dizziness or lassitude on the day following its use. For insomnia, with diseases of the cord, asthma, subacute rheumatism, and diseases of the stomach, where there is no intense pain, it has been found serviceable, and is to be preferred to chloralhydrate.—*Deutsche medicinische Wochenschrift*, No. 32, 1889.—*Amer. Jour. of the Medical Sciences.*

THE DOCTOR'S PORTRAIT.—"After his death, a physician's outstanding bills are rarely collectable. Many a one, with a large practice dies, and his estate is found to be not worth administering on. According to Dr. Jarvis' tables, the average of the lives of physicians is fifty-six years. If you begin practice at twenty-four, your active-life prospect will be thirty-two years, and from a thousand to fifteen hundred dollars will represent your average yearly income. Now, were you (through God's mercy) to practice these thirty-two years without losing a single day, and collect (say) eight dollars every day of the time, you would receive but $93,440. Deduct from that amount your expenses for yourself and your family, your horses, carriages, books, periodicals and instruments; your taxes, insurance, and a multitude of other items for the whole thirty-two years (11,680 days), and then, so far from being rich, even after this long and active life of usefulness, in this most important and honorable profession, after a whole life-time of scientific work, mental toil and slavery to our unrelenting taskmaster, The Sick Public; from the days of the dirty, unwholesome dissecting-rooms, through all life's phases, to old age; with not even the 1,564 Sabbaths to call your own—you would have but little, very little, left to support you after you naturally reach the down-hill of life, or are broken down in health and faculties deterioated, and in need of a physician yourself, through worry, anxiety and fatigue in the discharge of your duty."—*Dr. Cathell in last Edition of Physician Himself.*

New Method of Detecting the Impurities in Water.—We make a short note upon a subject we intend to test practically at an early day. It is a suggestion found in "The Sanitarian," September, 1889, taken from the *Utica Herald*, from the pen of Dr. Theodore Deecke, of the Utica Lunatic Asylum. The process is to take from a gallon to half gallon of water to be tested, acidulate one-half with sulphuric acid, and alkalinize the other half with soda or potassa; digest for an hour or two at 110° F.; after cooling shake with a proper amount of ether in order to dissolve animal alkaloids, volatile, aromatic, or fatty compounds; the ether is removed evoporated or distilled, the residue retained for examination. The ether being all evaporated, and there being any of the organic matter from privy filtration, it may be detected by the odor.

A Case of Inoculated Leprosy.—At the Dermatological Congress held recently at Prague, Dr. Arning gave an account of a case of inoculated leprosy in the Sandwich Islands. In 1884 he was permitted to inoculate a condemned criminal, with the latter's consent. The man whom he inoculated had no inherited taint. The immediate result of the inoculation was negative, but four weeks later the man was attacked with an affection resembling subacute rheumatism without fever. The first joint involved was the left elbow, and then other joints became attacked, the attack lasting for four months. Then occurred some swelling of the left ulnar and median nerves, which subsided in the course of six months. Meanwhile there had developed on the scar, at the site of the inoculation, a typical leprosy nodule, from which abundant bacilli were obtained. Since Dr. Arning had returned to Europe he had learned that the disease had made considerable progress, and the unfortunate man was now in a condition of marked marasmus.—*Medical Record.*

SALOL, as a substitute for iodoform, is not only a great relief to the olfactories, but an efficient dressing in all cases in which iodoform is indicated, the price is also in its favor.

PEROXIDE OF HYDROGEN by inhalation in advanced stages of phthisis is growing in favor. It has a controlling influence over hyperpyrexia in some cases, and is worthy of extended trial.

A COMPOUND LIQUORICE POWDER.—Mr. J. H. Fisher, in a paper recently read before the Pharmaceutical Society, said that he had some years ago prepared, at the suggestion of a medical practitioner, a compound liquorice powder which was in some respects an improvement on the pharmacopœial powder; it had a pleasanter taste, tart rather than sweet; it was more easily miscible with water, it was less liable to gripe; it was, however, a somewhat more powerful aperient, and had some diuretic and "refrigerant" properties. The formula is as follows: Senna, 2 parts; liquorice powder, 2 parts; fennel, 1 part; sublimed sulphur, 1 part; cream of tartar, 4 parts; sugar, 2 parts.—*Brit. Med. Jour.*

CHLORAMID, A NEW HYPNOTIC.—Chloramid, manufactured on the suggestion of Dr. von Mering, of Strassburg, is the latest hypnotic, and seems to possess many advantages over other similar preparations, It occurs in colorless crystals; is of a mild, slightly bitter taste, but is neutral; soluble in 9 parts water, and in 1½ parts alcohol. It is chemically affected by the presence of alkalies, but acidulated solutions can be administered. Chloralamid is given in doses of 1 to 4 grammes (the latter the maximum), in powder form or in solution with water or wine; the effect is asserted within half an hour and lasts from seven to nine hours. It has been successfully used by Drs. Hagen and Huffler, of Erlangen, in all varieties of sleeplessness, caused by nervous conditions, neurasthenia, phthisis, heart-failure, and in insomnia. It has also been employed and commendably noticed by the clinics of Strassburg, Greifswald, Giessen and Erlangen.—*Notes on New Remedies.*

ANTIPYRIN IN DIABETES.—Something more than two years have elapsed since D. Gonner called attention in the *Correspondenz-blatt für Schweize Aerzte*, No. 19, 1887, to antipyrin as a remedy for diabetes. Since then it has received numerous trials, especially at the hands of the French school of physicians, including Huchard, Robin, Dujardin-Beaumetz, Germain Sée, Panas and others. If the experience of these observers be received, it must be said of antipyrin that, excepting opium, it is the only drug to which a direct and efficient controlling power over glycosuria can be ascribed. Although the precise position of this remedy in the treatment of diabetes cannot be said to be determined, a number of valuable practical facts may be deduced from the experience of the French physicians as follows : 1. It is the milder forms of the disease in which it has been found most efficient. 2. It is administered either alone or in combination with sodium bicarbonate, the latter being preferred by Robin. Fifteen grains of antipyrin, combined with twice as much of the alkali, are given four times a day, an hour before or after meals, and this is kept up from eight to twelve days. Then the treatment is suspended, in order to avoid albuminuria and other toxic effects which excessive administration of antipyrin may produce. This period of intermission is continued until the sugar again returns or increases, say for a week. While the patient is taking the antipyrin a moderate amount of starchy food, even potatoes and bread, it is said, may be taken, to be discontinued again during the intermission, and thus the craving for these foods is supplied. The antipyrin alone is used in the same manner. In the hands of Panas (*Le Progrès Médical*, April 13, 1889) so small a quantity as 45 grains caused the entire disappearance of sugar in one case, although it immediately returned when the dose was diminished or the administration ceased. A *third* fact generally acknowledged by those who have had experience with antipyrin is, that it is in no sense a cure for diabetes; simply averting, during its use, the miscarriage of an important variety of food, the hydrocarbons, and thus conserving the energies of the patient. *Finally*, antipyrin should be cautiously used in cases of nephritis, on account of its well-known tendency in large doses to produce albuminuria, although its use should not be altogether interdicted on this account. Whenever, however, in non-albuminuric cases, albumin appears in the urine, it should be discontinued, as it should also so soon as it is found to produce no effect upon the sugar. It is of doubtful efficacy, also, where tuberculosis has occurred in the course of the diabetes, and where, although it diminishes the sugar, the specific gravity of the urine, nevertheless, increases; also in cases where the sugar exceeds three or five ounces per quart. It is to be stated, also, that good effects of antipyrin obtain in the polyuria of diabetes insipidus, as originally announced by Huchard in *Revue gén. de Clinique et de Thérapeutique*, No. 7, 1888. How does antipyrin act in influencing the glycosuria of diabetes? Very probably through some influence on the medulla oblongata, as suggested by Huchard, who was led to its use in diabetes mellitus by a consideration of its marked effect on other diseases of bulbar origin, as, for example, Graves's disease, its effect as an anodyne, and its effect also observed of converting a diabetes mellitus into a diabetes insipidus. In a word, it must act similarly to opium, and if it produces its effects without the disadvantages of opium, it must prove a valuable acquisition to our armamentaria against diabetes.—*Medical News.*

DIGESTIVE TABLETS.—*L'Abeille Médicale*, of April 27, 1889, gives the two following "antifermentative" formulas as prescribed by Dr. Dujardin-Beaumetz:

℞.—Salicylate of bismuth.
Magnesia.
Bicarbonate of soda, of each 2½ drachms.
Make into thirty powders or tablets.

℞.—Salicylate of bismuth.
Naphthol.
Magnesia, of each 2½ drachms.
Make into thirty powders or tablets.
Dose, one tablet at breakfast and one at dinner.

They are said to be especially valuable in dilatation of the stomach caused by fnrmentation.—*Med. and Surg. Reporter.*

POISONING FROM CALLY LILY is recorded in the *Therapeutic Gazette*, June 15. A 3-year old child chewed a stem of calla lily; poisonous symptoms followed—mainly failure of circulation. Recovery after three days.

Fifty thousand dollars has been voted by the recent Legislature of Texas for the establishment, at Galveston, of a medical branch of the State University, and the city of Galveston gave $25,000 additional.—*Pacific Medical Journal.*

Nutmeg Poisoning.—Dr. Sawyer reports in the *New York Medical Journal* a case of poisoning from nutmeg. The symptoms were those of dizziness, ending in a profound sleep. He awoke as from a natural sleep. Dr. S. suggests that this might be made available as a remedy where a relaxed sleep was indicated.

By will of the late Alonzo Clark, M.D., LL.D., it was placed in the power of the faculty of the New York College of Physicians and Surgeons to bestow a scholarship, with an income of about nine hundred dollars a year, for the purpose of promoting the discovery of new facts in medical science. This has been bestowed for three years from October 1, 1887, upon T. Mitchell Prudden, M.D., of New York City.—*Boston Med. and Surg. Journal.*

The Administration of Cod-liver Oil.—For the purpose of agreeably modifying both the odor as well as the taste of cod-liver oil, Dr. Seig, in the *Revue de Ther. Med. Chur.*, June 1, 1889, recommends that it be given in the following formula:

℞.—Cod-liver oil, f ℥ lxx.
Creasote, mzl.
Saccharin, grs. ijss.—M.

The odor of this preparation will resemble that of roast meat.—*Medical News.*

The Congress of American Physicians and Surgeons.—Dr. C. H. Mastin, of Mobile, may be said to be the father of this organization, set a wholesome example in the ground he took, at a recent meeting of the Executive Committee, for declining the nomination to the presidency. He is reported as having said that no member of the Executive Committee ought ever to be elected to the presidency. Thereupon Dr. S. Weir Mitcheil, ef Philadelphia, was chosen president, and Dr. William H. Carmalt, of New Haven, secretary. The next meeting is to be held in Washington, in September, 1891,—*New York Medical Journal.*

THERAPEUTIC NOTES OF SOME OF THE NEWER MEDICAMENTS.

CONDURANGO WINE.

Although condurango has not entirely justified the claims made for it in the treatment of cancer, the experiments made with it have demonstrated its utility as a stomachic, and in the form of condurango wine it has grown to be very much in demand, especially in Europe. One fluidounce of the wine represents 60 grains of condurango bark. Dose, one-half to one fluidounce. Parke, Davis & Co. supply the wine and also a fluid and solid extract of this drug, and will also mail, on request, a working bulletin on condurango to physicians who wish more detailed information concerning it.

ARSENITE OF COPPER TABLETS, 1–100 GRAIN.

An article by Dr. J. Aulde on the application of arsenite of copper in bowel affections, and especially in the diarrhœa of typhoid fever, was published in the July, 1889, *Therapeutic Gazette.* The results obtained by this investigation were so favorable to this remedy that Parke, Davis & Co. added to their list of tablets a 1–1000 grain arsenite of copper tablet, which makes a convenient method of preparing the solution commended by Dr. Aulde. One tablet should be dissolved in three, four to six ounces of water, of which the dose is a teaspoonful. Reprints of Dr. Aulde's article furnished physicians by Parke, Davis & Co. on request.

PIL. SALINE CHALYBEATL TONIC (FLINT'S).

In the *New York Medical Journal,* May 18, 1889, Prof. Austin Flint, M.D., speaks very highly of the following formula as a tonic in Bright's disease, and also in simple anæmia, stating that he has given it in nearly every case in private practice in which a chalybeate tonic was indicated for some time past, and in only one case out of 35 did it fail to cause marked improvement. Prof. Flint states, also, that in five cases of Bright's diseases, of which he has notes, this formula was the only medicinal remedy employed. In all cases the tonic seemed to exert an influence on the quantity of albumin in the urine. Dr. Flint's formula is as follows:

℞.—Sodi chloridi (C. P.) ʒ iij.
Potassii chloridi (C. P.) gr. ix.
Potassii sulph. (C. P.) gr. vi.
Potassii carb. gr. iij.
Sodii carb. (C. P.) gr. xxxvj.
Magnes. carb. iiij.
Calc. phos. præcip. ʒ ss.
Calc. carb. gr. iij.
Ferri redacti, gr. xxvij.
Ferri carb. gr. iij.
M.—In capsules, No. 60.
Sig.—Two capsules three times daily, after eating.

In the great majority of the cases of anæmia, etc., in which iron was strongly indicated, the tonic seemed to act much more promptly and favorably than the chalybeates usually employed. In a certain number of cases in which patients stated that "they could not take iron in any form," the tonic produced no unpleasant effects.

This formula is now furnished by Parke, Davis & Co. in pill form, and reprints of Dr. Flint's article from the *New York Medical Journal* will be sent free to doctors indicating their wish for them.

SALIX NIGRA.

This remedy has been used with such success as a sexual sedative in the treatment of masturbation, excessive venery, spermatorrhœa and ovarian disease. As a sexual sedative the fluid extract of the buds is considered the most efficient. Dose, ¼ to 1 fluidrachm, not miscible with water. As a general tonic and antiperiodic the fluid extract of the bark is employed with advantage. Parke, Davis & Co. make both these extracts, and will mail to the medical profession, on demand, working bulletin giving botanical description, medicinal activity, use and notes of cases.

PEPSINUM PURUM TABLETS, SUGAR-COATED.

These tablets are readily soluble, are without admixture of foreign substances, and will retain their activity indefinitely. Parke, Davis & Co. have given especial attention to digestive ferments and their pepsin and pancreatin products have been proven of superior activity to all others, both by elaborate comparative tests by eminent chemists and by clinical practice. These tablets furnish a very convenient form for administration of this now popular remedy.

COCAINE TABLETS.

These tablets are now largely used by careful physicians for extemporaneous preparation of any desired strength cocaine of solution. The rapid deterioration of cocaine solutions make these tablets a necessity. To make a 2 per cent. solution of cocaine: In one fluidrachm of water dissolve one cocaine tablet, 1⅛ grain. To make a 4 per cent. solution of cocaine: In one fluidrachm of water dissolve one cocaine tablet, 2¼ grains. To make a 10 per cent. solution of cocaine: In one fluidrachm of water dissolve five cocaine tablets, 1⅛ grain; or dissolve two 2¼ grain and one 1⅛ grain tablets in one fluidrachm of water. Parke, Davis & Co, guarantee the purity and anæsthetic efficiency of their cocaine product, and will send samples of their cocaine tablets to physicians, if desired.

INSTANTANEOUS CURE OF WHOOPING-COUGH.

In the *Archives of Pharmacy*, 1889, page 382, it is stated that the instantaneous cure of whooping-cough was attained by Dr. M. Mohn, as a result of accidentally observing that the disinfection of the sick-room of the whooping-cough patient by sulphurous acid caused the disappearance of the paroxysms with a rapidity bordering on the marvelous. The patients are freshly clad in the morning, and placed in another room, in which they remain during the day. Meanwhile, 25 gm. of sulphur is burned in the sick-room to each cm. of space; and after the bed-clothing, garments, etc., have been properly spread out, and the sulphurous acid been permitted to permeate the air for five hours, the patients return to their disinfected sleeping-rooms in the evening, and are cured of whooping-cough.

Physicians may not generally be aware of the fact that sulphur bricks are obtainable, which may be burned to secure the effects of sulphurous acid by inhalation, or for general disinfectant purposes. Parke, Davis & Co. supply these, as well as a general line of disinfectants for household use, and will afford physicians all desired information concerning them on request.

SYRUP TRIFOLIUM CO.—A DESIRABLE ALTERATIVE FORMULA, A SUBSTITUTE FOR SYRUP SARSAPARILLA.

The London *Hospital Gazette*, August 3d, 1889, calls the attention of physicians to an alterative formula in the following words:

The pharmacopœia is singularly poor in vegetable alteratives, and sarsaparilla the best known and most frequently prescribed, is most uncertain in action, and frequently very disappointing in results. Any well tested addition, therefore, to our materia medica in this class of remedies, will, we are sure, be gladly welcomed by practitioners. Some time ago we received from Messrs. Parke, Davis & Co. of Detroit, U. S. A., a sample of syrupy compound containing the essential elements of trifolium pratense (red clover), stillingia sylvatica (yaw root), lappa officinalis (burdock), phytolacca decandra (poke-root), berberis aquifolium (mountain grape), cascara amarga (Honduras bark), and xanthoxylum Americanum (prickly ash). All these are powerful alteratives, and have been in common use by American physicians in cases of a scrofulous or syphilitic nature. The proportions of each drug contained in the syrup are given with the directions, and to increase its operative action 8 grs. of iodide of potassium have been added to each ounce. We have used it with decidedly satisfactory results in some cases of chronic skin diseases of suspected specific origin. Being very palatable, children take it readily, and we have found it exceedingly useful, when combined with small doses of perchloride of mercury, in treating congenital syphilis.

* * *

SEMINAL FLUID.—A true human seed, the seminal fluid is, in fact, the richest and most complicated of all the products of secretion. It is formed throughout the vast net-work of the seminal tubes, the extent of which can hardly be determined by the eye of the anatomist, and through the agency of a large amount of arterial blood. Once formed, this liquid presents a unique spectacle of living fluid, in which, to borrow the expression of Charles Bonnet, the Supreme Architect of the universe has sown living corpuscles, just as He has sown planets and comets in the vast expanse of the heavens. *Syallanzani.* From Dr. Louis de Siré in Wood's Monographs.

BOOKS AND PAMPHLETS RECEIVED.

Circular LX. of the Board of Health of the State of New Jersey as to Laws Relating to Public Health.

Circular for 1889–'90 of the Medical College of the State of South Carolina. Sixty-first Announcement.

On Unusual Methods of Acquiring Syphilis; with Reports of Cases, by L. Duncan Bulkley, A.M., M.D., of New York.

The Rational Method of Preventing Yellow Fever on the South Atlantic Coast, by J. C. Le Hardy, M.D., Savannah, Ga.

The Therapeutic Value of Electricity in Gynecology. A Lecture delivered by invitation, at the New York Polyclinic, May 21, 1889, by Augustin H. Goelet, M.D., of New York.

Report of a Case of Stricture of the Rectum, the probable result of a Specific Vaginitis, by Lewis H. Adler, Jr., M.D., late Resident Physician University Hospital, Philadelphia, Pa.

Sewage Disposal. An Address delivered before the State Sanitary Convention at Emporia, Kansas. December, 1888, by W. L. Schenck, M.D., member of the Kansas State Board of Health.

De La Lobelline dans la Thèrapeutique de L'Asthme. Memoire Présenté. An 1 er Congrés Brésilien de Médicine et Chirurgie, et Lu, Devant le Mêne Congrés, á la Sénace au, 15 Septembre, 1888. Par le Dr. Silva Nunes, Rio de Janeiro.

PALMA–CHRISTI, the veritable castor oil plant, was the one which miraculously sheltered Jonah, and not a *gourd*, as translated in King James' version.

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(Syr: Hypophos: Comp: Fellows)

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The **Oxydizing Agents**—Iron and Manganese;

The **Tonics**—Quinine and Strychnine;

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Its Curative Properties are largely attributable to stimulant, Tonic and Nutritive qualities, whereby the various organic functions are recruited.

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From its exerting a double tonic effect and influencing a healthy flow of the secretions, its use is indicated in a wide range of diseases.

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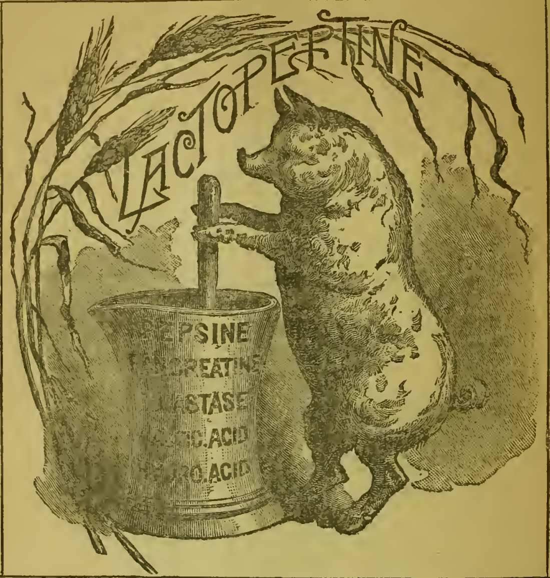

of all those ailments, in which deficient digestion is the direct or indirect cause of pathological conditions.

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CHOLERA INFANTUM,

CONSTIPATION, *and all Diseases arising from imperfect nutrition.*

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CONTENTS:

ORIGINAL COMMUNICATIONS:

Perityphlitic Abscess, Lacking the Usual Symptoms. Cure Effected by Drainage through the perineum. By W. J. H. Bellamy, M. D. 241
Treatment of Dysentery. By J. O. Walker, M. D. 245
Report of Dr. T. S. Burbank, Chairman of the Section on Gynecology, Medical Society N. C., at Elizabeth City 247
Report of Dr. J. A. Hodges, Chairman of Section on Microscopy, Medical Society N. C., at Elizabeth City 253
Report of Dr. H. P. Murray, Chairman Section on Practice of Medicine, at Elizabeth City 259
Ulceration of the Cornea. A Common Cause of Blindness, with Remarks on Treatment. By J. A. White, M. D. 261
Report of Drs. S. W. Stevenson and Robert S. Young, Section of Therapeutics and Materia Medica, at Elizabeth City 266

SELECTED PAPERS:

Perityphlitic Abscess. By F. Huber, M. D. 274
Contagiousness of Tuberculosis. By Wm. Potter, M. D 285

EDITORIAL:

Visiting Specialists—The Bashful, Lazy and Indifferent Members 295

REVIEWS AND BOOK NOTICES:

Cyclopædia of Diseases of Children, Medical and Surgical. Edited by John M. Keating, M. D. 297
Annual of the Universal Medical Sciences. By Charles E. Sajous, M. D. 297
Essentials of Materia Medica, Therapeutics and Prescription Writing. By Henry Morris, M. D. 298
Constipation in Infants 299
A Medical Practitioner Should be a Persevering Student 299

CORRESPONDENCE:

Some Practical Points about Supra-Pubic Cystotomy 300
Letter from Dr. Geo. H. Mallett, Los Yeoras, Mexico 301
A Strange Experience with Tape-worm. By Dr. A. S. Harrison 303
Value of Laparotomy in Suppurative Peritonitis 306
The Surgical Treatment of Erysipelas in Children 309
Washing out the Abdominal Cavity in Peritonitis 312
Meeting of the American Public Health Association in Brooklyn; Shade Trees on Health; Clothing in its Relation to Hygiene; Infant Mortality; The Quarantine of New York; Prevention of Tuberculosis; The Hoagland Laboratory 313

URRENT NOTES:

Caffeine; Quack advertisements in a Religious Newspaper; Flushing the Peritoneum 317
Tetany, a New Theory of its Pathogeny 318
Johns Hopkins Bulletin 319

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NORTH CAROLINA

MEDICAL JOURNAL.

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ORIGINAL COMMUNICATIONS.

PERITYPHLITIC ABSCESS, LACKING THE USUAL SYMPTOMS—CURE EFFECTED BY DRAINAGE THROUGH THE PERINEUM.

By W. J. H. Bellamy, M.D., Wilmington, N. C.

K., æt 62, of fine build and strong constitution, for years a faithful employeë of the W. & W. R. R., with a good personal and family history, was taken with chill and fever, apparently of the quotidian (intermittent) type, before about 2 a. m. July 14, 1889. Ordinary symptoms and ordinary treatment—purgatives, antiperiodics, antipyretics. No special indications of any other trouble, no abdominal pains, no obstinate nausea, no vomiting, no impatience of manner were exhibited. In the temporary absence of the undersigned, during the week ending July 28th, 1889, and about ten days from the commencement of the attack, Dr. Thomas F. Wood gave him the necessary attention, and reported the case as a double quotidian intermittent, and had prescribed quinine and antipyretics and simple aperient pills. The temperature record during the second week was of no value in diagnosis because of the influence exerted by antipyretic treatment, which for several days was kept up quite constantly. When, however, during a temporary suspension of treatment, as above, about the eighteenth day after the attack, the patient casually remarked that there was a feeling of discomfort in the region of the perineum, which he had experienced for several days. An examination, though carefully made, revealed no trouble in that region other than a slight tumefaction and the subjective symptoms of a little dysuria, which the patient was inclined to attribute to the probability of the existence of a trouble which might have had its origin in several attacks of gonorrhœa when a much younger man. The next day following my attention was directed to the prevesical region, where, though the patient was naturally quite corpulent, with strong tendency to obesity, there appeared to be an area of tumefaction extending to the right and in the direction of the ileo-cœcal region, flannels, soaked in hot hop tea, were applied, and on the following day I diagnosed clearly the existence of an abscess, and decided to operate, and so informed the patient. His suffering at this time did not appear to be very great, and at no time did he even think it was necessary for me to give him opium in any form. I requested Dr. W. to be present, and told him my diagnosis and intentions. This being confirmed and approved, I made a good incision into this dome shaped mass in the prevesical region and evacuated a pint or more of pus, stinking and of a brownish-yellow color. After the escape of the major portion of the pus, quite a large piece of necrotic omentum presented itself in the wound, and at the same time a spiriting artery, omentum and artery both secured by catgut, and the pus cavity well washed out with a 20 per cent. solution of carbolic acid. This was done on the morning of August 5th, and a drainage was secured in the wound. While irrigating the cavity with the carbolized solution, it was noticed that the patient had pain nowhere but in the perineal region, when the cavity was distended with some force, and I observed that by pressing upon this region force was applied to the contents of the abdomen, impulse was given which ejected the water through the abdominal incision. It was clearly evident, then, that the pus had made its way into the most dependent pouch of the peritoneum, and that, through drainage, would be essential to the best results. It was discovered, upon an attempt being made to introduce a catheter as a guide in making the perineal incision, that the patient had a stricture of a smaller caliber than any catheter at hand, and a completion of the drainage would have to be effected at another visit. Accordingly, the abdomen being distended, I made an incision a little to the right of the raphé, and to the depth of some 1¼ inches, and reached the pus cavity from below by means of a small trochar. A drainage-tube was inserted therein, the nozzle of an ordinary Mattson syringe introduced into the prevesical wound and the cavity well washed out, the liquid and pus flowing very freely through the drainage-tube in the perineum. Then an antiseptic gauze of iodoform, eucalyptol and bichloride was laid over the wound above and a saucer was put under the tube in the perineum.

For three or four days the ligatured omentum protruded further and further each day, and was each day tied further down with catgut and the upper portion cut off with scissors. In all, a piece of diseased (black) omentum, as large as a hand, escaped from the wound. At 9 : 30 a. m. and 9 : 30 p. m., systematically for twelve days, this treatment was kept up; at the expiration of this time, the drainage tube having slipped out through the night, and all traces of pus having disappeared, no attempt was made to replace it, and the perineal wound healed rapidly. For a few days longer a weak solution of carbolic acid was thrown in through the upper wound, but it healed rapidly. The patient now in good condition, general directions to a convalescent were given and the case discharged. He is now well and on a visit to a relation in the North.

That there was general peritonitis, was indicated by the large masses of necrotic omentum and the melted flakes which escaped from the lower wound, and the facility with which the water pumped in with some force through the abdomen, escaped *per saltem* through the perineal opening. The constitutional disturbance as indicated by high fever, masked by antipyretics, but still of a severe grade, ordinarily would not warrant a diagnosis of perityphlitis, and it was only when the pone-shaped mass on the right iliac region extended over past the linea alba that it became apparent that there was a large pus cavity somewhere, and that the most likely origin was in perityphlitis.

Before the perineal puncture was made in the afternoon the temperature was 102.5° F., and in the half hour it took to wash the cavity freely it dropped nearly a degree, and at 9 o'clock, four hours from the completion of the drainage, the temperature reached the norm and remained steadily there until convalescence was established firmly.

It has always been a desideratum of surgeons to secure this thorough drainage, it being, if we understand him correctly, the ideal drainage of Dr. Hunter McGuire in gun shot wounds of the abdomen. The problem always to be solved was, how to secure a guide to the incision in the perineum. In this case, of course, I took the guide which nature had given me, and found it surgery made easy.

In reviewing the case the chief points of interest are, the absence of pain in the abdomen and the absence of almost invariable subjective symptoms, such as nausea, etc.; hence the absence for a long time of many diagnostic objective symptoms and the manner in which the abscess showed it.

Did the analgesic property of the antipyrin in this case mask the symptoms? This was not given until ten days after the incipiency of the trouble, which we *now* know were chills and fever from purulent inflammation; and the antipyrin treatment was kept up for only five days. There were sweats after each exacerbation (a common and a characteristic occurrence after malarial intermittents) of fever; this, too, was before diaphoretics or antipyrin were used. The patient's avocation calling him, at all hours and very often under adverse circumstances, to creeks and rivers and other wet places, where water-tanks for the W. & W. R. R. were situated, the symptoms seemed to justify both of his advisers for some time in expressing the opinion that the trouble was an intermittent from a malarial cause.

Did the necrosis of the peritoneum change the character of the symptoms? We have all known the character of the pain in peritonitis, and there must have been an inflammation of this envelope preceding its destruction. In an inflammation causing so much destruction and damage, there should have been graver symptoms, and they were invariably absent when the daily visits to the patient were made.

TREATMENT OF DYSENTERY.

By J. O. Walker, M.D., Randleman, N. C.

I do not claim for this originality, but I am desirous of giving to the profession my experience with certain drugs in the treatment of this disease and the result.

From the 1st of May to the 15th of August, 1889, I have treated 93 cases. In 18 cases I carried out the usual line of treatment, viz: opium by mouth and per rectum, acetate lead and the other familiar astringents. Out of this number 2 died; the remaining 15 cases were confined to their rooms from one to three weeks. It is reasonable to suppose that I was not satisfied with the result of this treatment, consequently I got together all the literature I could on the subject, and from the innumerable number of remedies recommended for the cure of the disease I selected the following: If called before the process of disintegration begins, I have found sulphate magnesia combined with dilute sulphuric acid an excellent prescription; it empties the bowels of all irritating matter, relieves congestion, and afterwards acts as an astringent.

If the disease continue after the action of the above, instruct the nurse, if she possesses ordinary intelligence, how to use the hypodermic syringe, and have her inject in patient's arm, if he is an adult, $\frac{1}{8}$ gr. sulph. morphine and 1–200 gr. sulph. atropine every four or five hours, if bowels move too often, or if suffering much pain.

The administration of these agents by this method have several advantages over administering the same remedies *per orem.* They enter the circulation much quicker, they check peristaltic action much more effectually than opium by the mouth. Of course some remedy should be given to act upon the diseased mucous membrane, and I have found nothing better than the sulphocarbolate of zinc; it is a splendid antiseptic and an astringent of much value. If patient suffers much from tenesmus, I introduce into the rectum a soft rubber tube, and by means of a fountain syringe inject into bowel one quart of very warm water, to which some antiseptic has been added, such as salicylate of soda, 10 grs. to O. I have this done every three or four hours, if necessary. This rarely fails to give complete relief. If abdomen becomes very sore and tympanitic, I have turpentine liniment applied on flannel to abdomen as often as necessary. To counteract depression, give milk punch, French brandy, egg-nog. Good nourishment is very essential, as the disease makes a serious drain upon patient's vitality; such articles of food as peptonized milk and the juice of meat are excellent.

I have followed the above line of treatment in 76 cases, and am gratified at the result. Nearly all of these cases were of more than ordinary severity, and all recovered without any difficulty.

No doubt a great many of the profession have seen something in the text-books in regard to using morphine and atropine in the treatment of this disease, but I venture the assertion that not many of you have given them a fair and impartial trial, from the fact that you were afraid to leave your hydodermic syringe with the nurse.

If this imperfect article induces some one to adopt this method of introducing opium into the system for the purpose of counteracting this trouble, I shall be more than repaid for the time I have spent in writing this article.

SALICYLIC ACID IN TYPHOID FEVER.—Dr. Schakovski (*Thera. Monatsh.*) claims great success from the use of salicylic acid in malignant scarlatina. He used it in 125 cases. The mortality is but 3½ per cent. The following formula is used: ℞. Acidi salicylici, 1 part; aquæ destillatæ, 75 parts; syr. aurantii cort. 30 parts. M. Sig. Give a teaspoonful every hour during the day and every two hours during the night. The temperature falls very rapidly after taking this mixture, so that in certain cases, inside of 48 hours, the temperature has fallen from 105.8 F. to 100.4° F. All trace of fever vanishes by the tenth day. Nevertheless, the author advises the continuance of the remedy for some time, in decreasing doses, to prevent a relapse. All serious complications, such as uræmia, anasarca and diphtheria, are avoided through this treatment. The treatment is ineffectual only when employed too late (after the fourth day of the illness), or where grave complications already exist.—*Medical Standard.*

REPORT OF THE CHAIRMAN OF THE SECTION ON GYNÆCOLOGY.

By Dr. Thos. S. Burbank, Wilmington, N. C.

(Read before the Medical Society of the State of North Carolina, at Elizabeth City, April 16, 1889.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

A review of the literature of gynæcology for the past year shows no marked progress, though the field is full of investigators, and the subject one of ever increasing interest. The labors of such men as Simpson, Sims, Martin, Tait, and a host of others in the study of the pathology and treatment of uterine disease, coupled with the discoveries of Koch and Lister, have so thoroughly covered the ground that investigators at present have to look to the highways and hedges for soil to develop fine-spun theories, bungling and oftentimes dangerous procedures. The mistake so often made of rushing into print with every idea and stray syllogism that strikes us, is to be deplored; the more lamentable from the fact that we, the younger members of the profession, are the guilty parties, thereby throwing away the spring-time of our career in the vain hope that a few short strokes of the pen will lift us to the pedestal on which stands the immortal Sims. "The days of miracles are passed." He who would be true to his profession and himself, must go slow, "must tread the paths our fathers trod," so that, "leaving his footprints in the sand of time," they may serve as guide to some wayfarer in generations to come.

The marvelous electricity is now offered us to revolutionize gynæcology. The many ills peculiar to women melt before this mighty power as "mist before the morning sun." Fibroids are to be dreaded no longer. The various erosions, engorgements, inflammations, etc., of the uterus and its appendages are removed by a force so subtle that a knowledge of their existence is a pleasure inestimable.

That electricity has some claim on the attention of the gynæcologist, yea, a great claim, is a fact incontrovertible; but that it will take the place of all other methods of treatment in diseases of women, as claimed by Apostoli and his followers, the records of past years fail to prove. It is certainly the best cautery known :

(1) On account of its easy management. (2) Unlike chemicals, there is no resulting inflammatory action. The action of the induced current on relaxed muscular fibre is well-known and deserves attention in the treatment of displacements, subinvolution, etc. If the statement of Legros and Quimus, that a descending galvanic current dilates blood-vessels and an ascending galvanic current contracts blood-vessels, be true, then galvanism will be a potent factor in the treatment of amenorrhœa, metrorrhagia and allied conditions. Apostoli admits that the good effects of the galvanic current are due to its cauterizing action, when he says: "The galvanic current is principally used as a caustic for removing diseased mucous membrane, coagulating blood, or destroying foreign growths in body of uterus or diminishing hypertrophy of uterus itself." And again: "When the fibroid is not safely accessible from the vagina, the intrauterine application of the positive current by means of the platinum sound suffices, but a much weaker dose is given and the applications must be numerous." Again: "In cases of chronic cellulitis and perimetritis, he punctures them with the negative electrode, and in a few days the diseased tissue either comes away in sloughs or is reabsorbed."

In the treatment of fibroids, according to the theory of Apostoli, "the diminution should not be effected by the actual destruction of tissue, but by a movement of absorption determined by the passage of the current or the application of the negative pole." He attributes the absorbent virtue to the negative pole. He claims, in the treatment of fibroids, relief of pain, hemorrhage and retardation of growth, for his method, simplicity, harmless, painless, effective, apart from malignant disease, he knows of hardly any disease or displacement of the uterus which cannot be either relieved or cured.

Dr. Gehrung, of St. Louis, Mo., a disciple of Apostoli's, noticed, in his cases of electrolytic puncture for the removal of fibroid tumors, two different processes toward their resolution: (1) Gradual atrophy, caused by a disarrangement and subsequent absorption of the constituent elements of the neoplasm. (2) Cystic degeneration of fibroids caused by electrolytic puncture. "Around the tip of an electro-negative pole introduced into a uterine fibroid an accumulation of fluids and gases take place, the product of electrolysis. Some of these mixed particles escape along the electrode, while some remain imprisoned on its withdrawal. These retained particles are usually absorbed, and may possibly represent an active principle in the process of atrophy of the fibroid. This cyst of electro-chemical detritus grows by gradual increase of its contents and consequent thinning of its walls. Thus a fibroid may be transformed into a cysto-fibroid, and finally into an abscess." This condition would require an operation of puncture and drainage—an undesirable complication.

From the treatment of a case of submucous, intra mural fibroid by the constant current, Dr. Mary Putnam Jacobi concludes that this new treatment acts by facilitating the normal influence of menstruation in inducing involution and by cauterization.

In the discussion on electrolysis in the treatment of uterine diseases at the meeting of the Obstetrical Society of London, June 6th, 1888, Dr. J. Shaw concludes that the constant current acts on a fibroid in a three-fold manner: (1) To but a small degree by electrolytic action, the positive pole most affecting the cellular, and the negative the formed elements. (2) By the hemostatic action of the positive pole and the derivative influence of the negative. (3) By increased arterial tension, and so diminished nutrition accompanied by some alteration of the mutual relation of the fluid and solid elements. Other members present assigned no specific virtues to electricity, but that it acted as a stimulant, caustic and cautery.

THE TREATMENT OF DYSMENORRHŒA AND STERILITY CAUSED BY FLEXION OR STENOSIS OF CERVICAL CANAL.

Simpson was the first to call attention to the feasibility of the treatment of these conditions by incision or dilatation with sponge and laminaria tents. The latter, I believe, has been entirely abandoned. Though the operation of incision is often successful in the treatment of obstructive dysmenorrhœa and stenosis, it is so fraught with danger that conservative surgery demands a more gentle means to relieve these troublesome afflictions. The chief objections urged against this method is the liability to excite inflammation, the subsequent formation of cicatricial tissue in neck of uterus and return of trouble. Discision, another method of incision, consists in division of internal fibres of cervix in several directions, is milder, but subject to same objections as incision. Divulsion, the forcible stretching and tearing of cervical tissue, is alike open to objections of former operations, more dangerous from the fact that we have left a greater absorbing surface and sepsis is more likely to follow.

Rapid Dilatation.—Much has been said and written of late about this operation. Its advocates claim for it expediency, absence of danger, efficiency. They claim a distinction between this operation and divulsion; the distinction is one of degree, not of kind. The cervical canal is forcibly and rapidly dilated, with an instrument that admits of a separation of its blades to about one and a quarter inches, and is carried to full capacity of dilator; this leaves an opening that will freely admit the index-finger. The size of a normal external or internal os, as we learn from a number of dissections by Dr. C. Henri Leonard, is that of a number eleven sound French scale. To rapidly and forcibly dilate an opening of this dimension to the capacity of the index-finger in tissue as resisting as uterine certainly produces rupture, and rupture is divulsion. That septic troubles follow, I can vouch for, for in more than one instance the accident has happened to me, though every precaution was used to render patients, operator and instruments thoroughly aseptic, and in no case was there evidence of an old or existing inflammation. There is no necessity for so enlarging the calibre of the canal except for conditions requiring an exploration of uterine cavity. All we want is a canal sufficiently large to allow menstruation unobstructed and the free ingress of the spermatozoa. If a small opening answers, why enlarge it? If the end can be accomplished without mutilation, why disfigure? The nearer we imitate nature, the nearer we arrive at perfection and the less risk we run of adding unpleasant memories to our past. Uterine tissue admits of a vast amount of stretching without laceration, if done slowly and cautiously; so, by far the most rational, safest and most effective method in the treatment of these conditions is gradual dilatation. It is not so quick, and may not serve so good a purpose to the specialists in the large cities who are so crowded with patients that time is of more importance than an occasional failure; but to country practitioners the failure in one case may sound the death-knell of their gynæcological practice, it is a desideratum of wonderful preparations. The operation of gradual dilatation is accomplished by the passage of sounds gradually increased in size until the diameter of canal is sufficient to admit intra-uterine stem or the desired amount of dilatation is produced and maintained. Place patient in left lateral prone position, introduce Sims' duck-bill perineal retractor and expose cervix, seize anterior lip of cervix with vulsellum or strong tenaculum, and draw os as near vulval orifice as possible; first introduce probe small enough to pass external os without using force, and study direction and physical condition of canal, withdraw and gently pass sound sufficiently large to dilate slightly, repeat two or three times, increasing size of instrument each time; dry canal thoroughly and paint with Churchill's tincture iodine, put in vaginal tampon of absorbent cotton moistened with glycerine or extract pinus canadensis, patient to be put to bed and kept quiet. After twenty-four hours tampon removed and douche of hot water given. The second day another operation is done, and so on. Owing to the resiliency of uterine tissue the cervix has recontracted, and we find the diameter somewhat lessened than when left, though not so small as at beginning of treatment, consequently we begin with instrument one size smaller than one last used, and increase as before, repeating operations, until we can introduce stem to maintain dilatation or overcome contraction. The principle is the same employed in the treatment of stricture of the urethra, and acts by overcoming contraction of circular muscular fibres and producing absorption of exudates. Emmet recognizes no obstructive form of dysmenorrhœa, and says injections of hot water, in knee-chest position, will accomplish everything claimed for dilatation. However true this may be, there are cases of dysmenorrhœa with a stenosis or flexion that dilation of cervical canal, maintained, relieve.

Admitting that each and all the methods are often effectual, I claim that incision and discision mutilate, disfigure and are dangerous; divulsion is more dangerous, cicatricial tissue results and the former condition returns more often, rapid-dilatation with the use of the intra-uterine stem is not devoid of danger and has no advantage over gradual dilatation, with or without the stem, which is simple, harmless, painless and effective.

Mrs. F., æt 37 years; married; multipara; nativity U. S.; occupation, operative in cotton factory; family good.

History.—Health through childhood very good; menstruated at 14; menstruation regular and painless; married at 21 years, became pregnant, went to full time, and was delivered after a hard and rapid labor. Her getting up was slow, convalescence long and tedious; suffered dragging pains in pelvis, when erect, severe backache, constipation, frequent headache, profuse leucorrhœa, capricious appetite, hysterical convulsions; became a widow, and on account of bad health was unable to work for the support of child and self, sought relief from physician, who discovered lacerated perineum and cervix, retroverted and prolapsed uterus. She was operated on for these with complete success, Smith's pessary fitted, found relief entire, resumed work, wore pessary two years, had no inconvenience without it, so discarded its use. Married again, became pregnant, result of labor return of old troubles in an aggravated form. Tried pessary with no relief, had physicians to fit pessaries, unable to wear one. After suffering two years applied to me for relief. I found patient anæmic, nervous, having frequent attacks of hysterical convulsions, menstruation irregular, leucorrhœa profuse, bearing-down pains in abdomen, severe headaches and backache, constipation, frequent micturition, lacerated perineum and cervix, bilateral depth of uterus four and one-half inches. Put her on tonic treatment, and after three weeks operated for laceration of cervix with uterus outside of vulva; uterus returned and held in place by glycerine tampon, patient put to bed and kept in recumbent position, tampon changed once in forty-eight hours, on eighth day stitches removed, union complete, depth of uterus normal, operated for perineal rupture, allowed uterus to remain fourteen days, and found good union; kept patient in bed three weeks, fitted pessary and allowed her to get up. Uterus prolapsed as before, tried various instruments, could find none to retain organ in place, had other physicians to fit pessaries, result same. All her former symptoms returned under the most vigorous tonic and mechanical treatment, including Emmet's hot water treatment. Called on Dr. Geo. G. Thomas for consultation, and at his suggestion decided on a Tait operation for relief of the procidentia and consequent ills. Preparation of patient consisted in laxatives and warm baths followed by friction to skin for three days prior to operation. Operation done with strict antiseptic precautions on the afternoon of July 30th, 1888.

Patient made an uninterrupted recovery, with the exception of a slight malarial complication. Relief entire, has been, and is now, hale and hearty and able to stand on her feet and work ten hours a day.

REPORT OF CHAIRMAN OF SECTION ON MICROSCOPY.

By James A. Hodges, M.D., Fayetteville, N. C.

(Read before the Medical Society of the State of North Carolina, at Elizabeth City, April 16, 1889.)

Microscopical research within the past year has not been rewarded by any especially great discoveries. More attention seems to have been devoted to the technique of the science, and there has consequently been greater perfection attained. This is particularly noticeable in the preparation and manipulation of histological and pathological specimens.

Notable among the improvements presented to the profession has been the introduction of Instantaneous Photomicography. This microscopical aid has been especially developed and perfected during this year, and some of the results are entirely new and susceptible of numerous and important applications in the study of the Infusoria and of all living micro-organisms.

Crapanica, an Italian microscopist, arrives at the following conclusions as the results of his experiments with the photographic microscope:

"1. Rapid photography, 1-20 of a second, or very rapid, 1-200 of a second, can be obtained if very high powers and inversion lenses be used.

"2. By means of a special shutter and a particular arrangement, any number of successive negatives of the movements of an object can be obtained, just as, macroscopically, the flight of birds, and the rapid movements of other animals, have been.

"3. By the method of successive positions the different planes of any preparation can be reproduced upon the same sheet, thus obtaining a photograph unique in its entirety."

In the method of examining blood corpuscles, Professor Masso has found that osmic acid, used in a 1 per cent. solution, preserves them better than any other known reagent, and does not precipitate the albumen like the mercurial solutions formerly used. It is said to fix the leucocytes in their natural condition, and, though they become granular, they remain transparent and preserve their proper and characteristic outlines.

Dr. Henry Formad, of Philadelphia, has given especial attention to the methods of examining blood stains and measuring the blood corpuscles.

The question has long been one of controversy as to whether the microscope can be depended upon to determine positively or not that a given specimen of blood is that of a human being. Dr. Formad contends that, while the spectroscope and chemical reagents are of utility, that, for the recognition of human blood, the microscope alone is of any value, and that the sole method yet found available with this instrument is that of measurement of the corpuscular elements.

He maintains that fresh human blood cannot be mistaken, under the microscope, for the blood of any animal whose corpuscles have a mean diameter of less than 1–4000 or even 1–3600 of an inch. With regard to dried blood, it is claimed that this can be recognized just as readily, provided it has dried quickly; however, if it has dried slowly, it undergoes decomposition and its morphology cannot be made out as definitely. By his improved methods, Dr. Formad claims that he can measure 9-10 of the corpuscles reproduced, and believes that he can more accurately diagnose human blood than has ever been done before.

The following easy method for preserving and staining tubercular sputa has recently been recommended by a German microscopist: Prepare, in a small wide-mouthed bottle, an aniline fuchshine solution, with carbolic acid (aniline water, 8 parts, fuchshine, 4 parts, carbolic acid, 1 part), and allow the patient to expectorate into the bottle. This preparation not only preserves the sputum, but also stains the bacilli, so that, after twenty-four hours or longer, it may be spread on cover-glasses and mounted in the usual manner. The special utility of this method in cases where the patient is at a distance, will be evident, as the sputum is stained while fresh, and decomposition does not have an opportunity to occur.

In near relation to this subject, it may not be amiss to state that Spillman and Haushalter have recently reported to the Paris Academy of Sciences that they have demonstrated, positively, by their microscopical investigations, that house-flies may be, and often are, carriers of tuberculosis contagion. Their investigations included repeated examinations made of the excrements and intestines of flies that had fed on the spit-cups of consumptives, and in both they found abundance of bacilli. They found, also, the same bacilli in dried excrement which was scraped from the windows and walls of rooms occupied by phthisical patients. When the fly dies its body desicates and sets free the bacilli, which are still capable of growth. The idea, however, that this insect may carry contagion is not a new one, for the contagious ophthalmia of Egypt is believed to have been largely disseminated through this agency, while bacteriologists have noticed how readily cultures may become infected by them, and Koch, it is said, admits that they may be the vehicles for the distribution of cholera.

As a practical deduction from these investigations, it is well for practitioners to insist upon a thorough and systematic disinfection of the expectorations of patients suffering from phthisis.

Probably the most novel of all the new therapeutic agents suggested for the treatment of this disease (pulmonary phthisis) is the inhalation of micro-organisms, the benefit of which treatment, Dr. Ege, of Reading, Pa., says, can be demonstrated with the microscope. This, he says, is a modification of Cantani's treatment, and is used in the following manner: To the white of one egg, six to eight ounces of water are added, and this albuminous mixture is allowed to stand in a lightly covered vessel from six to eight days so as to give it a disagreeable, penetrating odor and to allow the development of bacterium termo, It is then strained, and from a half to one ounce is used by means of a common atonizer three times a day. If the mixture gets too odorous, which it is apt to do in about two weeks, a second culture has to be prepared.

As a result of this treatment, the sputum is said to become much thinner in from two to five days, the quantity greater and the bacillis much increased in numbers. In some of the cases it was six months before the microscope showed a marked decrease in the number of bacilli. Dr. Ege reports having used this method in 29 cases, and of this number, six are said to have been entirely cured, two having died, and the remainder are all reported as improving at the present time.

It is needless to speculate upon the *modus operandi* of this novel line of treatment. The microbes in the inhalation are not possessed of a pathological power, and cannot live in the tissues of the living human or animal subject. It is said that they do not kill the bacilli tuberculosis, but drive them out: whether this be due to the irritation of the lung or the penetrating odor of hydrogen sulphide, or other causes, is not specified. Perhaps the enthusiasts of the sulphuretted hydrogen treatment may be encouraged and "take heart again."

This new discovery, if it does not establish a fact, at least proves that the American microscopist is rapidly advancing in the science. Ten years ago there were many obstacles to overcome, and a thorough education in practical microscopy could not be obtained in the United States. These conditions are now rapidly changing, and to-day four large laboratories are thoroughly equipped and prepared for carrying on advanced experimental research. Heretofore microscopical study has dealt almost exclusively with the results of disease, while now it searches for the cause.

During the long ages past, while diseases were completely enshrouded in mystery, or were regarded as produced by some supernatural cause, every effort to combat them was unavailing, and all forms of disease, especially devastating epidemics, prevailed. Now, that the nature of most diseases has been revealed and many of their causes brought to light, true preventive measures have followed.

And we are proud that among the many distinguished men who have devoted their time and energies to this ennobling work for humanity, and have thereby so radically advanced the science of medicine, our own country has shown a few capable of the highest scientific achievements; note, for example, the experiments of Prudden, Formad, Wood, Sternberg and others, who by means of the microscope have solved many puzzling problems and ascertained the cause of many communicable diseases.

Pathogenic microbes have been determined for about fifteen diseases, and it is now known that from many of these diseases protection is undoubtedly secured by attenuated virus. This has been successfully accomplished in the case of small-pox, anthrax, swine-plague and pleuro-pneumonia, and the evidence in favor of Pasteur's inoculation for the prevention of hydrophobia, says Sternberg, "is such that it has a relative value," and with the recently improved methods better results are anticipated in the near future.

Within the past year nothing has engaged public attention, possibly, so much as the yellow fever epidemic in the South, or the ravages of that fearful scourge at present in the city of Rio Janeiro.

During the year several investigators have been diligently searching for the pathogenic microbes of the disease.

Dr. Paul Gibier, who was appointed by the French Government to go to Cuba to investigate the whole question of yellow fever, claims to have discovered in the black matter always found in the intestines after death, a bacillus resembling in many points the so-called comma bacillus of cholera. In this opinion he has the endorsement of Dr. Friere, who has long been interested in this subject. The cultures of this bacillus, says Dr. Gibier, "are destroyed by 60° C.," and he believes that this is the reason why inland districts are exempt from the scourge, the comparative dryness of the air destroying the virus. He furthermore believes that this fever is due to the development of the microbe in the intestine the affection being, therefore, a purely local one.

A year ago Dr. George Sternberg, in an address before the College of Physicians and Surgeons, in Philadelphia, on yellow fever, in relation to its supposed bacterial origin, said that his investigations at that time did not confirm the claims of these microscopists in regard to a specific germ. Since then, however, he went to Havana to continue his experimental investigations, and, if we can judge from his subsequent articles, he is still "Hunting for the Yellow Fever Bacillus."

The view that malarial fever was due to the presence of micro-organisms was suggested by Lucretius, 95 B. C., and was advocated in this country by Dr. Mitchell in 1859. In 1879 Klebs announced the discovery of the specific germ as bacillus malariæ, but it was soon demonstrated that this discovery could not stand the tests applied.

A few years later, Laveran discovered the parasite, oscillaria malariæ, which is now known as "the malarial germ of Laveran." These organisms, he claims, belong to the class of infusoria, and are not bacteria, as was once supposed.

Recent experiments have wholly confirmed this fact, and hypodermatic injections of the parasites into rabbits have produced malarial fevers resembling those that affect human beings, thus proving the existence of a specific germ.

Laveran finds additional evidence, also, in favor of his view of the rôle of the parasite in the operation of quinine. Under the action of this drug the parasites were found to disappear very quickly from the blood.

A bacillus for typhoid fever has been established by Dr. Billings, of Chicago. This bacillus is always present in this fever, and is found in no other. It is also demonstrable by the microscope in the tissues and stools of typhoid patients as a characteristic bacillus, but the final factor, necessary to prove its etiological relation to the fever is wanting, that is, the successful inoculation of man or the lower animals with the pure culture of the bacillus. Until this final factor is supplied we cannot be absolutely certain that this bacillus is the cause of typhoid fever. Like the bacillus tuberculosis, it is of diagnostic value and a sure positive sign, but there the utility of this discovery ceases.

Thus it may be seen, even from the researches which have been chronicled in this paper, despite the wholesale condemnation of the germ theory by some who, either from prejudice or indolence, have not informed themselves, that advances are being made in the science of microscopy which, in the end, will benefit the whole civilized world.

No fanatic among microscopists has ever ventured to assert that all diseases are caused by bacteria, but still, as the investigations go on and more is learned of diseases and their effects, more and more of that long list of maladies which afflict the human race are found to be parasites in their origin. All communicable diseases must be put down in this class, beside many that are passed from individual to individual in the ordinary course of life. Thanks to the microscope and that small band of distinguished scientists who employ it, many of the causes of these communicable diseases have been ascertained, and from the fruit of their labors we are patiently, but certainly, gaining information which shall guide us in our struggle for existence against foes that in the past have been hidden enemies to health as well as even life itself, but are now no longer invisible nor unknown.

REPORT OF DR. H. P. MURRAY ON THE PRACTICE OF MEDICINE.

(Read before the Medical Society of the State of North Carolina, at Elizabeth City, April 16, 1889.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

In offering our report of the progress of medicine for the year 1888, the Section has been subdivided into five parts, as follows:

Specific febrile diseases.
Diseases of the nervous system.
" " digestive organs.
" " vascular "
" " respiratory "

One of these divisions has been assigned to each of the gentlemen whose aid has been sought in the work.

We hope to bring out under each head some discussion that will result in benefit to ourselves and the Society.

Without further preface, your attention is invited for a short time to the consideration of the Specific Febrile Diseases. And out of their number I will select but one to engage our attention at present, for I conceive that the object of these reports is not to present to the Society a thorough digest of the literature that has appeared during the year, but simply to point out for discussion, under each head, one or more of the most important advances that have appeared since our last meeting. For that I will name

THE ANTISEPTIC TREATMENT OF TYPHOID FEVER.

Leroux gives to all cases a good dose of calomel, and then, if there be diarrhœa, he gives naphthol and bismuth, each 4 grs. every hour; if there be constipation, he gives naphthol and salicylate of magnesium, each 4 grs.

According to Huchard, the decrease of mortality in cases of ileo-typhus treated with salicylate of magnesium is so great that the most enthusiastic followers of Brant's water treatment have just cause to be envious. The action of the drug on the typhoid fever patient is seen in the disappearance of weakness, in the disappearance of the foul smell about the mouth, a decrease in the swelling of the abdomen, and a lessening of the decomposed odor of the fæces. In cases where the drug had been used from the first, complications were rarely observed. In a series of 25 cases that occurred to me during the fall of 1888 and treated with antiseptics, there was a mortality of 1, or 4 per cent. The subjects were all convicts, and the treatment was commenced early in every case. The one that ended fatally was the subject of two distinct attacks, with an intervention of three weeks, during which time the man became the subject of mumps, as it was epidemic in camp at that time. The second attack was severe and lasted three weeks, when death took place from exhaustion.

It does not seem necessary to review the different plans of treating typhoid fever that have been accepted from time to time, varying from the heroic use of the water treatment or cold bath and antipyretic drugs to the expectant plan, nor to even mention the remedies that are mostly in use, except to say that I believe every one that has gained any repute in the treatment of typhoid has more or less antiseptic power.

While we accept typhoid fever as depending on a specific germ, operating chiefly, if not entirely, in the alimentary tract, there seems to be but one rational treatment: (1) Clear the bowel thoroughly with an antiseptic cathartic—and there is none better than calomel; give pure water freely to aid its action; afterwards keep the bowel acting as often as is consistent with the preservation of the patient's strength, with laxatives, if needed. By this means at least a portion of the poisonous agent will be eliminated. (2) Administer some good antiseptic in small and frequently repeated doses. We thus prevent the rapid increase of the germ until elimination can be effected by the bowel.

The new antipyretics, acetanilid and antipyrine, seem to fill an office quite their own during the first few days in promoting the comfort of the patient, lessening the temperature, and protecting the nervous system, without any evil effect, if given in small doses and not continued too long. The diet should be liquid and easy of digestion, not too much concentrated, and in quantities less than the normal amount, in proportion as digestion is hindered by the disease, to which I believe the appetite is a fair index.

Having closely studied this plan of treating typhoid fever for the last few months, and having received good results from its application, I venture to announce that we have at last the power to control that dreaded disease, and frequently to abort it.

ULCERATION OF THE CORNEA—A COMMON CAUSE OF BLINDNESS, WITH REMARKS ON TREATMENT.

By JOSEPH A. WHITE, A.M., M.D., Senior Surgeon of the Richmond, Va., Eye, Ear, Throat and Nose Infirmary.

(Read before the Medical Society of the State of North Carolina, at Elizabeth City, April 16, 1889.)

In presenting to your consideration a short paper on "Ulceration of the Cornea," I am prompted by a desire to be of such service to my professional brethren here assembled as my experience in this particular may permit, and also to elicit opinions on this subject that may be equally advantageous to us all. This affection is so common, is produced by so many different causes, is so trying to the patience of the physician, and so destructive to eye-sight, if not properly treated, that I am sure a few words about it will not be amiss. I speak of "ulceration" only, because "abscess" of the cornea nearly always changes into ulceration, and, therefore, this term practically covers the ground of all the destructive processes in this structure.

Under this heading, then, may be comprised superficial and deep-seated abscess, superficial and deep ulceration or sloughing, whether due to lowered vitality caused by general troubles; or, accompanying exanthematous diseases; or, resulting from defective innervation (paresis or paralysis of the fifth pair); or, from inflammation of the conjunctiva; or, from traumatism.

Superficial ulcerations, such as occur in phlyctenular keratitis, etc., are not of serious consideration, although frequently intractable to treatment for a long time. The little ones (for these troubles appear most frequently among children) suffer much from pain and intolerance of light, etc., but they nearly always get well. Whilst there is much pain and irritation about the eyes, the best treatment is installation of a solution of eserine or pilocarpine with cocaine, two or three times a day, out-door life, dark glasses, and in bad cases the application of a compress bandage, *provided there is not much conjunctival secretion.*

Conjunctival secretion, in any noticeable quantity, is always a contraindication to the use of a compress bandage in any and all eye affections. Frequent bathing of the eyes in *hot water* for a quarter or a half hour, and the use of antiseptic washes, such as a bichloride of mercury solution (1 to 3000), will be of great service Never confine such cases to the house and dark rooms, as fresh air and tonics are the basis of treatment. When the symptoms of irritation have subsided, stimulating applications, such as the *yellow oxide ointment*, should be used to clear up the opacities and prevent recurrence of ulceration. I am in the habit of using the following:

℞.—Hydrarg. oxid. flav., gr. 2.
Oleic acid, gr. 2.
Cocaine muriat., gr. 4.
Vaselin, drachms 2. M.
Sig. Apply to eyes twice daily.

Whilst in superficial ulceration there is comparatively no risk of loss of sight, it is quite different in the forms of deep ulceration.

Both in the sthenic and asthenic cases there is always the impending danger of *perforation* of the cornea from extension of the ulceration, with consequent prolapse of the iris and frequent loss of vision. Possibly there is no more prolific source of blindness than the ulceration of the cornea resulting from the purulent conjunctivitis of new-born children. Probably there is no physician present who has not had such a case in his practice. In these cases the safety of the eyes depends more on the *prevention* of the ulceration than on its arrest or cure after its inception. Whilst not strictly within the scope of this paper, it may not be out of place to make a few suggestions in this regard. If all physicians would make it a rule to see that the eyes of new-born children are thoroughly washed, and a few drops of a bichloride of mercury solution (1 to 3000) instilled several times daily for several days after birth, there would be no conjunctivitis, and consequently no ulceration of the cornea and loss of sight. This should be especially done when the mother has any vaginal discharge. It can do nothing but good in any event.

Supposing, however, such a precaution had been neglected and in a few days a conjunctivitis declares itself, in a very large proportion of the cases prompt intervention will prevent any serious results. Frequent cleansing with the bichloride solution (say every hour), the use of cold applications and an astringent solution, such as the following, will probably cut the affection short:

℞.—Aluminis, gr. 4.
Zinc, sulph., gr. 2.
Aquæ, distill,, oz. 1. M.
Sig. Drop in eyes as often as required.

Should the lids continue to swell and the discharge increase, *ice compresses* should be applied, the antiseptic wash continued, the astringent application used more frequently, every half hour, if necessary, and a nitrate of silver solution (10 grs. to the ounce) applied to the everted eye-lids twice daily. I do not advise the general use of the mitigated caustic stick, because its application requires special knowledge and care. The cornea must be carefully watched, and if there should be any cloudy appearance, the *cold* applications and astringents must be at once stopped, *hot* compresses substituted and a solution of eserine dropped into the eye. If the cornea becomes *ulcerated* and rupture is threatened, *paracentesis* of the anterior chamber should be performed, and the incision kept open by passing a probe into it daily. If the above course is followed, blind asylums would not be in such demand by the unfortunate victims of this terrible disease. Very much the same treatment is applicable to purulent inflammations of the conjunctiva among adults, whether of catarrhal or specific origin.

Whilst there is little practical utility in discussing the different forms of deep ulceration of the cornea, because, with slight variations, the same treatment [is applicable to all of them, I will merely mention the more prominent varieties, such as—

1st. The non-inflammatory, or asthenic ulcer.

2d. The inflammatory, or sthenic ulcer.

3d. The rodent ulcer (ulcus corneæ serpens), or so-called hypopyon keratitis.

The etiology of the first form is rather obscure, and it is more commonly found in persons who have formerly suffered from superficial corneal troubles, or maybe have old corneal opacities. The ulceration is usually *central*, or near the centre, and very intractable to treatment; even under the most expert guidance, weeks or months may elapse before a cure is accomplished.

The second form is more commonly near the periphery of the cornea and quite frequently due to traumatism, such as a blow from a switch, twig, whip, etc. Sometimes it starts as a small corneal abscess and developes into dangerous ulceration, with hypopyon or pus in the chamber, and usually such patients are persons over forty years of age.

The third form, hypopyon keratitis, or rodent ulcer, seems to belong to old age, the subjects being generally over sixty, who frequently have some trouble with the lachrymal sac. This form, also, is often of traumatic origin, a slight blow in the neighborhood of the orbit being sometimes a sufficient cause. It is characterized by its rapid progress and frequently intense suffering.

In all the forms, as I have already observed, the dangers to be apprehended are extension of the ulceration over a large expanse of the cornea and its subsequent rupture with prolapse of the iris. The object of the treatment is to prevent this breaking down and rupture of the cornea. The means at our disposal to accomplish this result are, *locally*, eserine, pilocarpine, antiseptics and surgical intervention; *internally*, iron, quinine and other tonics. When the cornea becomes weakened by the ulceration it gradually gives way before the *normal intra-ocular tension* and rupture occurs. It is well known that both *eserine and pilocarpine* diminish the intra-ocular tension, and consequently their application lessens the risk of rupture. Moreover, both are vaso-motor stimulants, and as such tend to improve the local circulation, and the nutrition of the cornea always defective in ulceration. They accomplish another good by contracting the pupil, and consequently lessening the photophobia, so frequently a distressing accompaniment of this affection. Sometimes eserine causes considerable pain, and when it does so, I substitute pilocarpine for it, although I generally use them together. Any symptoms of *iritis* would be a contraindication to their use, and this is an important point to notice. Whilst these remedies should be the basis of the local treatment, we have useful adjuvants in hot water, cocaine, etc., and antiseptic washes.

When a case of deep ulceration of the cornea is brought to me I at once cocainize the eye, cleanse the ulcer thoroughly with the bichloride solution and determine its extent. If iritis is not complicating it I instil eserine until the pupil is thoroughly contracted. Then, if perforation does not immediately threaten, I cauterize the ulcer very carefully with a 2 or 3 per cent. solution of nitrate of silver, and order hot water to be applied for about a half hour. I give the patient the following :

℞.—Iodoformi pulv., grs. 10.
Eserine sulph., grs. 1½.
Pilocarpine muriat., grs. 3.
Cocaine muriat., grs. 5.
Vasaline, drachms 2. M.
Sig. To be applied to the eye several times daily.

A little of this is put into the eye and a compress bandage applied, but removed if it produces pain. Iron and quinine are given internally; any specific diathesis is counteracted by appropriate remedies; the hot water applications (as hot as can be borne) are used for a half hour, three times daily, and the above salve used as often as necessary. If there is any *iritis*, atropia sulphate is substituted for eserine and pilocarpine in this salve, but such cases do not progress so well under treatment. When the eye is cleansed the bichloride solution is used in place of water.

Indolent ulcerations of an asthenic type are stimulated by touching with the galvanic cautery, for which purpose I have had a special electrode made. Great pains subdued by antipyrine in many cases, and if it fails morphia is substituted for it. If perforation threatens I always open the anterior chamber and make a good size incision at the corneal margin with the lance-shaped knife, so as to thoroughly evacuate the contents of the chamber of lymph, pus, blood, etc. A good size incision is easier to reopen daily than a small one, and this I do every day until the ulcer begins to heal.

In "Rodent Ulcer," when the ulceration is progressing very rapidly, instead of a large paracentesis at the corneal margin, I perform Saemisch's operation of splitting open the ulceration through its centre with a Graefe knife, making puncture and counter puncture in the *healthy* cornea. If perforation has already occurred with prolapse of the iris, I cut off the protruding iris, and follow the same line of treatment as above described, cutting off the prolapse as often as it protrudes. When the healing process starts and the cornea begins to cicatrize, I add yellow oxide of mercury to the salve mentioned and continue the same treatment.

REPORT OF THE CHAIRMAN OF THE SECTION ON THERAPEUTICS AND MATERIA MEDICA.

By S. W. STEVENSON, assisted by ROBERT S. YOUNG, Chairman.

(Read before the Medical Society of the State of North Carolina, at Elizabeth City, April 16, 1889.)

ACETPHENETIDINE.

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

Dr. Way, in his able paper at the last meeting of this Society, referred to the above drug in the following language: "This new candidate for therapeutic favor as an antipyretic has not as yet been used to any very great extent. It is a faintly-reddish powder, odorless and tasteless, and is analogous in chemical compositions to acetanilide."

"Kobler (*Wiener Med. Wach.*), as a result of his studies of its action administered in 50 cases of disease—phthisis, pneumonia, typhoid fever, etc.—draws the following deductions:

'1. It is an efficient antipyretic.

'2. It produces no ill or unpleasant effects.

'3. The dose is by quantities of 1½ grammes.

'4. The administration of a considerable dose (8 to 10 grammes) is more useful than the repetition of small doses hourly or every two hours.

'Additional testimony on this drug at present is wanting and more extended observations are necessary in order to determine its true worth as a remedial agent.'"

Since the above was written much additional testimony has accumulated.

At the meeting of the Pharmacological and Therapeutic Section at the recent meeting of the British Medical Association at Glasgow, a valuable paper was presented by Dr. Dujardin-Beaumetz on Phenacetine, which is another name for the drug under consideration. It was pointed out that there are three phenacetines, or acetphenetidines, the meta—para- and ortho-acetphenetidines. The first possesses no therapeutic power, while the second is more powerful than the third. The history of the drug was discussed and its physical and chemical properties noticed. In investigating the physiological action of this agent its insolubility was found to hinder its subcutaneous administration and rendered experimentation on animals difficult. It was definitely made out that if phenacetine was toxic in character at all, it must be so in a very slight degree. It was also made out that therapeutically the phenacetines have a double action. They lower temperature (especially in pyrexia) and soothe pain. In fever ½ gramme lowers the temperature from 1° to 2° C., the effect lasting usually about four hours, though sometimes longer.

The report, as I copy it from the October number of the *Therapeutic Gazette* for 1888, states that abundant sweating is produced, and often a sensation of collapse. Phenacetine in fevers shows itself superior to antipyrin, and antipyrin in producing marked antithermic effects without toxic phenomena. But it is as an analgesic the drug outrivals these its predecessors; while in this respect it is quite as powerful as antipyrin or acetanilide, it does not cause the pain in the stomach or the scarlatina-form rash of the former, nor does it give rise to the cyanosis of the latter. The doctor stated that he had given it for months in daily quantities of from 1 to 2 grammes, and had never observed any bad effects. He had used it for the relief of every form of pain—neuralgias, migraine, rheumatic pains, muscular rheumatism, the lightning pains of tabes, etc., and always with the best results. In hysteria and hysterical pains it is superior to bromides, and it procures sleep in nervous insomnia. He regards it as a narcotic as well as an analgesic, as a depressor of the excitability of the medulla. The dose is 1 to 2 grammes daily, given in single doses of ½ to 1 gramme—best given in *cachets*. The doctor closed his paper by saying :

1. In the phenacetines we have excellent antithermic and analgesic remedies.
2. Of the three only two possess therapeutic properties—para- and ortho-acetphenetidine.
3. The latter must be given in larger doses than the former.
4. These two salts seem to be devoid of toxic properties.
5. They are powerful antithermics and very active analgesics, which ought to be substituted for antipyrin, for the following reasons :

1. Because they are non-toxic,

2. Because they act in doses one-half smaller.
3. Because they are one-half cheaper.
4. Because, finally, there is no monopoly in their manufacture.

H. C. Wood, of Philadelphia, in the *Therapeutic Gazette*, for March, 1889, says that extended experiments on dogs and rabbits have shown that this drug is almost inert in from 15 to 30 grain doses given daily for days at a time. When given in from 45 to 75 grain doses to large dogs, it produces accelerated respiration, sleeplessness, disturbed coördination and vomiting, and in still larger doses methæmoglobin is produced, as in antifebrin poisoning. Even after this symptom has occurred, however, recovery has almost invariably taken place.

Dr. Hoppe, of the Jewish Hospital in Berlin, has made a number of experiments on men in administering from 15 to 40 grains, and has found that, after a time, the system has become accustomed to the remedy. The only disagreeable effects produced by these amounts were sleepiness, dizziness, nausea and slight chilliness. He has also tried it in twenty-five different forms of neuralgia, in a majority of which relief of pain followed its employment. Various cases of headache were relieved in half an hour by its use, and he believes that in neuralgia, as in febrile disease, it is equally as efficacious as antipyrin, and is preferable to it on account of its freedom from danger.

Dr. Rumpf, another German physician, has made like experiments, and concludes that, as an antipyretic, it is equal to any that has been produced, and that in 8 cases of hemicrania doses of 15 grains produced relief, while in 7 cases of neuralgia, of different nerves, it has likewise been very satisfactory.

H. C. Wood, editor of the *Therapeutic Gazette*, says in the March number for 1889 that the attention of the English-speaking member of the profession has not been attracted by this drug to any extent as yet. Therefore we can offer no American opinions.

PYRODIN.

This is an antipyretic remedy of still later discovery than phenacetine. It is one of the derivatives of coal tar. It is a white crystalline powder, very sparingly soluble in cold water and almost tasteless.

Dr. Dreschfield, of Manchester, has tried its effects extensively on healthy persons and on patients suffering from various diseases. Doses of from 8 to 12 grains, on consecutive days, produced no ill-effect on healthy individuals. Similar doses markedly lowered the temperature in from two to four hours in cases of pneumonia, scarlet fever, typhus and typhoid; but occasionally toxic effects are produced, and this seems to be more particularly the case in typhoid fever and in rheumatism.

Dr. Wild has investigated its physiological effects on animals in the laboratory of Owens College. The toxic effects are the same as in aniline poisoning, and depend on the action of the drug on the blood, producing hæmoglobinæmia, or even destruction of the blood disk; aniline is found in the urine.

The editors of the *Lancet* caution the profession against giving more than 12 grains at one dose, and against giving it oftener than once in eighteen or twenty-four hours, and against continuing it for longer than a few days. It is, in their opinion, a very potent and dangerous drug, and should be given with extreme caution. No mention has yet been given of its possessing analgesic properties.

The writer has seen an oily, clear, yellowish liquid, called pyridin puris, manufactured by Merck, of Darmstadt. It seems to be volatile, and has a very strong offensive odor, and is given in 20-drop doses, by inhalation, from a hot plate, in the paroxysms of asthma, which it relieves in some instances. This preparation is not to be confounded with pyrodin proper, although it may be of similar origin; whether it is or not, the writer has no means of knowing.

SULPHONAL.

This new hypnotic seems to be receiving unusual attention by the medical world just at this time. Its investigation almost amounts to a sensation. In a New York journal (*Medical Classics*), dated February, 1889, copied from the *North Western Lancet*, the following allusion to sulphonal is made: "Sulphonal is perhaps attracting more attention just now than any other new drug, for the many reports which have been made upon it go to show that it is the ideal, long-desired hypnotic, tasteless, harmless, certain in its action, and incapable of setting up a habit. It is not in anyway an anodyne, and is therefore not adapted to cases where sleeplessness is due to pain, but for the wakefulness of excitement, worry or insanity, it seems to be a specific." The single massive dose is the most certain in its effects given half an hour before bedtime. When there is maniacal excitement, as much as 75 grains may be necessary, but for other cases 15 grains is the proper dose. A good point about the drug is, that its effects are repeated night after night without increasing the dose. It is not readily soluble, and should be accompanied by a hot drink, etc.

Salgo, up to November 22, 1888, had in the Insane Asylum Buda-Pesth given it in paralysis agitans, and found it less efficacious than chloral and not better than paraldehyde.

In some cases its hypnotic effects were entirely wanting, but in most cases it produced sleep without any unpleasant after-effects, and in all cases the drug was taken without difficulty by the patients.

Langgaard and Rabbo, of Paris, during the year 1888, experimented on themselves and on various patients, with results appearing to confirm the reports of its earlier advocates. Rasin, of Germany, concludes, likewise, that sulphonal, in 30 grain doses, is not less safe than morphine and chloral, and that even double the dose may be given with impunity, and even with satisfactory results in uncomplicated insomnia.

Œstricher, of Berlin, pronounces sulphonal to be a perfectly safe hypnotic, without any influence on the respiration, pulse or renal secretion, with the exception of in heart affections, and he pronounces it much safer in these than chloral, and on account of its freedom from taste and odor he prefers it to aniline, hydrate or paraldehyde.—*Ther. Gaz.*, Aug. 28.

Cramm (*Münch. Med. Woch.*, November 24, 1888), has employed sulphonal on four hundred and seven different occasions—in 92 cases of mental trouble with a positive success—in 92, 6 per cent., producing sleep of five or more hours duration. The editors of the *Therapeutic Gazette,* from which this is copied, thinks that sleep may be produced in nervous cases by the mental suggestion of it to the patient, and says that Cramm produced sleep as successfully in three cases with common salt as with sulphonal.—*Ther. Gazette,* August, 1888.

Rosenbach (*Wiener Med. Blätt.*, November 25, 1888) recommends the addition of from 1-6 to 1-4 of a grain of morphine to sulphonal as increasing its efficaciousness.—*Therapeutic Gazette*, August, 1888.

Dr. Hilsman writes in the *Gaz. Hebd. des Sciences Med.*, September, 1888, that he has recently had occasion to employ this new hypnotic in several patients already accustomed to the use of morphine, chloral, paraldehyde and methylal, and has obtained satisfactory results. In one phthisical case, who was unable to sleep on account of violent cough, sulphonal in a 15-grain dose produced a tranquil sleep of eight hours duration. Dr. Hilsman mentions a case of heart disease accompanied by uterine pains and loss of blood, in which sulphonal produced natural sleep; another case, 70 years old, suffering from endo-arteritis senilis, accompanied by paroxysmal pains, in which both morphine and antipyrin had failed to give relief, sulphonal rapidly relieved the pain and sleep was produced.—*Therapeutic Gazette*, October, 1888.

A report of the use of this hypnotic in the wards of von Ziemssen, as given in the *Centralblatt für Klinische Medizin*, October 6, 1888, showed that of 27 cases 72 per cent. obtained at least six hours sleep after its use; in 9 per cent. it was incomplete in its action, and in about 19 per cent. the result was negative. There were accompanying symptoms in 20 per cent. of fatigue, indisposition, ringing in the ears, headache, vertigo; vomiting was noticed in one or two cases after its use. It is slower in its action than chloral hydrate, and its effect is obtained in one-half to three hours. It has no special influence on the pulse, temperature or respiration. The dose varies from 15 to 30 grains; as a rule 15 grains are sufficient. It has the advantage over the other hypnotics of less marked odor and taste and in not affecting profoundly the vital centers.—*American Journal*, December, 1888.

Dr. William Flint, of New York, reports 33 cases in which sulphonal has been employed and in which the observations have been made with unusual care. The drug was given at bedtime enclosed in capsules, and the patients were not informed of the nature of the drug or of its expected action. The average length of time at which sleep ensued was about an hour. The average duration of the sleep was a little over six hours, and success attended its use in about 82 per cent. of all trials. The cases were unselected and many were unsuitable for experiment with a pure hypnotic. The single objectionable after-effect was moderate somnolence on the morning following the administration of the drug. In none of the cases has the circulation, respiration, appetite, digestion, cutaneous or renal secretion been in the least affected.—*American Journal*, March, 1889.

Connally Norman, Superintendent of the Daublin District Richmond Asylum has used sulphonal in 30 cases, of which he reports 22. In only two persons were any bad results noticed; these were especially unfavorable cases, and where other sedatives had failed. No gastric or intestinal trouble was observed. The drug seemed to lessen the tendency to self-abuse and erotic excitement. In some recurrent cases it seemed to shorten the attack. In comparing sulphonal to the more modern drugs, its advantages are that it has no odor and is tasteless and produces no gastric derangement nor troublesome head symptoms; it does not affect the appetite and the sleep is relatively "natural." Its disadvantages are its bulk and insolubility. Its action is slow, and it sometimes produces giddiness and a sense of weariness and somnolence on the following morning, and one case of severe, but not fatal, poisoning has been reported, in which 60 grains were given at 9 p. m., and 30 more were given at midnight, producing decided muscular incoördination, lasting about six days.—*American Journal*, March, 1889.

Sulphonal is being investigated by the best men of the world. They seem to be anxious to find merit in it, and are giving it a fair trial; on its worth it must stand or fall, its future time alone can reveal.

PICROTOXIN AS AN ANTIDOTE TO MORPHINE.

Prof. Arpad Bokai has lately published in the *Apoth. Zietung* an interesting preliminary statement of a series of experiments with picrotoxin as an antidote for morphia. His investigations lead him to pronounce picrotoxin the most rational antidote for morphine, the effects of the two drugs on the centers of respiration and on the spinal cord being antagonistic. Morphine diminishes the activity of the respiratory centers, while small doses of picrotoxin have the opposite effect. As death from morphine is caused by paralysis of the respiratory nerve centers and picrotoxin prevents this paralysis, therefore picrotoxin, the author thinks, is calculated to save life in cases of morphine poisoning. The rapid decrease of arterial pressure caused by morphine is counteracted by picrotoxin, which strongly contracts the vessels which feed the centers of the medulla oblongata. The two drugs also exert antagonistic action on the cerebrum, though this action is of less importance in the preservation of life. The chief physiological antidote to morphine which heretofore has been used is atropine, which the editor of the *Druggist's Circular and Chemical Gazette,* from which I copy this article, thinks to be successful, must be administered in dangerous doses, and therefore he thinks a new antidote, free from this objection, will prove a valuable addition to the armamentation of the physicians. Prof. Arpad Bokai thinks, also, that picrotoxin might prove valuable as a prophylactic against chloroform asphyxia. Whether the opinion of the editor of the *Druggist's Circular and Chemical Gazette,* that atropine, to be of value in morphine poisoning, must be administered in dangerous doses, is correct or not, is a debatable point in the writer's mind, but he will leave that to be supported or refuted at the proper place and time and by the proper authorities.

ATROPINE IN HEMORRHAGE FROM THE LUNGS.

The editor of the *Therapeutic Gazette,* in the February number, for this year, states that there is no fact better established in physiological therapeutics than the power of the alkaloid atropine to contract the capillaries, yet he states that he cannot remember of ever having read of its being employed for the purpose of checking hemorrhage, excepting in the following case:

At the meeting of the Medical Society of Victoria, on the 14th of last November, Dr. R. A. Sterling narrated a case of profuse bleeding from the apex of the left lung, which hypodermic injections of ergotin and other commonly used remedial measures failed to check. The hemorrhage was sufficiently severe to threaten death by suffocation, when the injection of the 1-150 of a grain of atropine checked and controlled it. During twenty-four hours the injections were repeated at intervals of six hours; then, thinking the stoppage might be accidental, the treatment was omitted for twelve hours with the result of a fresh and severe attack, which was at once controlled by a renewal of the treatment.

In the writer's experience atropine is a drug of power, and its uniformity of action can always be depended upon; in the above case its therapeutic effects literally fulfilled its physiological promises—this is just what a drug should do, and it is, in our opinion, what atropine will generally do.

SELECTED PAPERS.

PERITYPHLITIS IN CHILDREN.

By F. Huber, M.D., Clinical Chief in Diseases of Children, Vanderbilt Clinic, New York.

C. H., male, 8 years old. Three days before I saw him he was seized with vomiting and diarrhœa, attributed to eating. Castor oil had been administered without relief, though bowels were freely moved. At my first visit the abdomen generally was tender, though the pain was more intense in the right iliac fossa. The abdominal muscles on both sides were rigid and legs were drawn up. Some difficulty in urinating. The pain was readily controlled by small doses of morphia. No tumor or dulness in the ileo-cæcal region. Under the use of small doses of morphia and bismuth, the general symptoms improved; the vomiting ceased, pains grew less, but the tympanites and abdominal tension became more marked. On the sixth day of the illness a rectal examination demonstrated a fulness and some bulging to the right and somewhat posteriorly in the rectum. It was then determined to explore the right iliac fossa, and accordingly, a small aspirating needle was introduced about one-half inch above the anterior superior iliac spine, directed downward, inward and backward, pus being readily detected. No tumor could be detected by external palpation on account of the tympanites and rigid condition of the abdomen. Hepatic dulness preserved. Temperature 101½°; respiration, 20; pulse, 80.

Diagnosis.—Perityphlitic abscess with acute general peritonitis. The peritoneal inflammation was not regarded as septic in character, but was thought to be due to an extension of the inflammation to the general peritoneum. An incision was now made a little above and along the outer half of Poupart's liagament, the tissue divided layer by layer, and the abscess opened, pus with a fæcal odor escaping. The finger was now passed in and the cavity explored; no fæcal concretion or sloughing appendix was felt. Two drainage-tubes were then inserted, one passed upward and backward, the other downward to drain the pouch felt through the rectum. The cavity was then washed out, and a bichloride gauze and borated cotton dressing applied. On the third day fæces were discovered on the dressing; four days later two small fæcal concretions were washed out in irrigating the wound. The fæcal discharge ceased in a few days; the drainage tubes were then removed, and the wound healed in about two weeks, followed by recovery of patient.

F. D., male, 10 years old, had not been in good health for some time past. During the four days prior to the time he came under my care he had been compelled to remain in bed because of the intense abdominal pains, particularly in the region of the cæcum; had been feverish during this time, vomiting continually, very much prostrated, considerable diarrhœa. At my first examination I found him lying on his back with his right thigh flexed, with rigidity of the abdominal walls, particularly on the right side. Palpation, cautiously and gently performed, demonstrated the existence of a tumor in the right iliac fossa. Urination frequent and difficult. Pulse feeble, tongue dry and brown; patient in a typhoid state.

Rectal examination revealed a fulness to the right and somewhat posteriorly. A large hypodermic needle introduced into the most prominent portion of the swelling revealed the presence of a stinking pus. Diagnosis, perityphlitic abscess.

Two hours later he was chloroformed, and, with the assistance of Drs. Denhard and Horn, the abscess was opened; the dissection being made layer by layer, and about six fluidounces of fetid pus escaped. The cavity was then carefully explored with the finger, but no foreign body or concretion could be felt. Two pouches were detected, one running up and backward, the other downward towards the rectum. Two drainage-tubes were then introduced, the larger—five inches in length—reached to the bottom of the pouch along the rectum; the second drained the upper portion of the wound. Irrigation and antiseptic dressing applied. A small hypodermic of morphia then injected. The pain ceased, the vomiting and the difficulty in urination disappeared at once. Bowels moved spontaneously the following day. On the fourth day a ragged slough, about four inches long, was washed out in irrigating the wound. The tubes were gradually shortened and then dispensed with, a small sinus being left. On the twenty-third day a large fæcal concretion was discovered on the dressing, after the escape of which the sinus closed in a few days. Perfect recovery followed.

In addition to these two in which an operation was required, I have observed at least a dozen cases in children in which resolution occurred. In three of these recurrences took place. In one case three times within a year. I have also met with four cases of perforative peritonitis, all fatal.

These cases will serve to introduce the subject of perityphlitis in children.

Typhlitis, inflammation of the walls of the cæcum; perityphlitis, inflammation of the peritoneum covering the cæcum; paratyphlitis, inflammation of the connective tissue behind the cæcum; and appendictis, inflammation of the appendix, are various terms employed to designate the morbid train of symptoms, characterized by pain and tenderness, in the right iliac fossa, the presence of a tumor in this situation which may resolve or go on to the formation of pus with local, or perhaps general peritonitis, accompanied by vomiting, febrile disturbances, constipation or diarrhœa, and dorsal decubitis, with thighs flexed. As yet we are not able to differentiate clinically between the affections of the cæcum and those of the appendix; the term perityphlitis, therefore, is employed by many authorities in a wider sense, to cover the complex inflammatory processes in this region, rather than to limit the expression to its more correct anatomical application. The affection is of frequent occurrence in the young, and shows special predilections for the male sex. This is true in infancy and early youth, as well as in adolescence. Of 21 cases collected by Gerhardt, 13 belonged to the male sex. Meigs and Pepper observed 13 cases which resolved, 8 being male and 5 female; and of 43 cases collected by them, in which recovery took place, 27 occurred in males. Of 6 cases of perforation of the appendix, under fifteen years of age, 4 were males, 1 female, 1 sex not given.

Matterstock found that 9 per cent. of the cases collected by him occurred below the age of ten years, and 30 per cent. between the ages of ten and twenty years. Labardie-Lagrave met with 13 cases between the ages of ten and fifteen out of a total of 122. Demme and Bouchut saw 72 cases in 90,000 children. Volz found that in 35 cases in which the autopsy confirmed the diagnosis, 11 were in children. Lewis reports 47 cases, 6 of which were in children under ten years.

The anatomical peculiarities of the cæcum and appendix, the greater irritability and proneness to inflammation of the intestinal tract in the young, constipation, cold and exposure, indigestible food, blows, and the strumous diathesis have been regarded as causes of the disorder. The appendix is relatively larger and longer in the newly-born child than in the adult. The colon of the newly-born is only four times, whereas that of the adult is eight times, as wide as the process. This certainly yields predisposition to the entrance of foreign bodies into the process in children. Hecker and Bute found a concretion of meconium in a newly-born child. Betz reports a perforation of the appendix in a child seven months old, and Faber one in a girl three and a half years of age. Cases in the very young are rare, for some predisposing cause is necessary. A previous typhlitis or peritonitis—even diarrhœa, constipation, dysentery, typhoid fever, tuberculosis, or any lesion causing a moderate local peritonitis with resulting adhesions of the appendix—may cause greater patency with diminished elasticity in the vermiform process, and thereby favor the formation of concretions or the entrance of foreign bodies. About three-quarters of the recorded cases of perforation of the appendix are due to concretions, infrequently to foreign bodies.

In 49 cases in children, fæcal concretions were found in 27 instances, foreign bodies in 3, and nothing abnormal in the remaining. In the two cases presented this evening, fæcal concretions escaped with the discharge from the wound; two smaller ones in one case and a large one in the other.

Abnormal conditions of the mucous membranes undoubtedly precede the formation and lodgement of the masses, which may remain inert, or, through the agency of germs or virus of disease ingested in the food or drink, act as irritants, and causes local gangrene or peritonitis, and thereby set up the train of symptoms now under discussion.

Inflammatory conditions, except as the result of foreign bodies or fæcal impactions, are not frequently met with in the cæcum. Primary cæcal perforations are exceedingly rare, though Henoch reports a case. In the greater number of instances the appendix is the seat of the trouble, and a foreign body, or more frequently a fæcal concretion, will be found in the appendix, in an abscess cavity or free in the peritoneum. The appendix itself may be inflamed, filled with mucus or pus, may be ulcerated, perforated in one or more places, gangrenous or entirely destroyed. The walls may give way as the result of distention. Dr. Wilks saw a case in which the appendix was dilated to the size of the ileum, and contained three to four ounces of white, odorless mucus. Old and recent adhesions are frequent. Abscesses are encountered in the fossa, behind the cæcum, in the pelvis, or in the right lumbar region, depending upon the anatomical variations in the situation of the appendix. The existing peritoneal inflammation may be limited to the neighborhood of the affected organ, may be general, or may be suppurative in character.

The most prominent symptoms are pains and tenderness in the right iliac fossa, dorsal decubitus with knees drawn up, rigidity of the abdominal walls, particularly of the right side, and an irregular tumor, more or less distinct, in the ileo-cæcal region. Febrile movements, irregular in character, also exist. To this series we may add diarrhœa or constipation, nausea or vomiting, colicky pains irregularly intermitting and of greater or less severity. More or less prostration and a typhoid state may be present. More or less difficulty in urinating may also exist.

The disease may begin suddenly with very severe pains, more or less shock, the iliac pain being obscured by the general peritonitis, and the case terminates fatally in a number of hours or runs along for one to six days. Or the pains may be intense, some shock exist, and general tenderness be found over the entire abdomen; more, however, in the right iliac fossa. After the lapse of a few days or a week a tumor can be detected and an abscess results. In a third class of cases the pain may be moderate, more or less vomiting and some tympanites. The swelling soon shows itself, and pus is found. Finally, we have another class in which—though the initial symptoms may have been severe, and a tumor forms—resolution will take place. Relapses and recurrences are frequently observed among the latter.

In children there is frequently a prodromal stage, lasting for weeks or months before a definite diagnosis can be arrived at. We find anorexia and vomiting, constipation, and at times diarrhœa with colicky pains about the ileo-cæcal region. In some cases the pains may be felt in the epigastric region or in the left ileum, as was the case in those instances mentioned by Bouchut, Herzfelder and Traube. In several cases Jacobi found the pains most marked along the transverse colon. Some difficulty may be met in walking or standing, the patient favoring the right side. Examining, we find pain, with more or less rigidity of the right side of abdomen, some fulness or a distinct tumor. There may be tingling or weakness in the right leg, painful sensations and even loss of power. The tumor may not be perceptible, and we may only be able to appreciate increased resistance to pressure and exquisite tenderness along the cæcum.

In practice, according to Dr. Bull, two classes of cases are met with:

1. Catarrhal perityphlitis, which tended to resolve; it occurs in a large number of cases, and may go on to suppuration.

2. Suppurative perityphlitis, when suppuration, perforation, or gangrene occurred with (*a*) spreading peritonitis, (*b*) limiting or circumscribed peritonitis or "intra-peritoneal abscess," and (*c*) cellulitis, iliac or lumbar, or both, "extra-peritoneal abscess," and finally, (*d*) portal phlebitis, with or without hepatic abscess. The extra-peritoneal abscess (*c*) is secondary in most cases; but where the appendix is extra-peritoneal, or where it or the cæcum had been excluded from the peritoneal cavity by old adhesions, it might be primary.

As has been well said, the life of the patient is in the hands of the general practitioner, as the case is first seen by him. The question of diagnosis is of the greatest importance, and the early recognition of the case contributes materially to the welfare of the patient. In a case which I saw with Dr. Newfield, only the most careful examination enabled us to exclude hip-joint disease. Dr. Gibney has observed a number of cases in children, from eight to ten years of age, who presented the characteristic deformity of hip-joint troubles. The peripheral pains along the right lower extremity may be misleading. The history of the cases and the presence of rigidity and tumefaction in the ileocæcal region will exclude typhoid fever. In intussusception we have bloody discharges from the rectum with severe tenesmus. The characteristic rectal tumor will also clear up the case. Impaction of fæces is differentiated by the prior history of constipation, by sausage-shaped tumor along the ascending colon, by the slight tenderness and the peculiar feel.

In a girl of eleven years of age, an ovaritis of the right side, due to gonorrhœal infection, presented some of the symptoms of perityphlitis; the characteristic vaginal discharge and a vaginal examination excluded any affection of the appendix.

The difficulty of diagnosis at times is well illustrated by the following case:

A girl of seven years of age had had a vaginal discharge for a short time. She was an exceedingly anæmic patient. No history of gonorrhœal infection and no cause for the vaginitis could be made out. The general weakness and some soreness about the lower part of her abdomen made her take to her bed. The same day vomited considerably, a little blood being found in the vomited matter. The abdomen generally not tender, some little soreness over the pubes. Pulse good, no pain, some diarrhœa (though constipation usually existed). No elevation of temperature. The little patient was in good spirits. At my evening visit I found her in a collapse, with severe pains in the right iliac region.

Diagnosis, perforation of appendix. Charles E. Denhard saw her and confirmed the diagnosis. The following day Professor Jacobi was requested to see the patient. In view of the rapid onset with collapse, pains more severe in the right iliac region, and the rapid spread of the inflammation, the diagnosis of general peritonitis, due probably to perforation, was confirmed. The same evening vomiting set in, and soon assumed a greenish character, the tympanites became more marked, and general abdominal tenderness greater. Temperature not over 101° (rectal). Pulse 130, very weak. The following day Professor Wm. T. Bull was called in consultation, with a view to the advisability of performing laparotomy. The diagnosis was confirmed, and, as soon as the consent of the parent could be obtained, a laparotomy was done by Dr. Bull, with, however, faint hopes of ultimate success, as the heart's action was very weak, pulse about 150. The patient was chloroformed by Dr. Denhard, and at the operation, done by Dr. Bull, considerable sero-purulent fluid was found in the abdominal cavity. The intestines were conjested, here and there some lymph was found—no adhesions between the folds.

The appendix was searched for and found *intact*, no fæcal concretion to be felt. The Fallopian tube and fibrinated extremity on the right side thickened and congested, and it now became evident that the infection had taken place through the genital tract, and had thus given rise to the peritoneal inflammation, simulating so closely a perforation of the appendix that the correct interpretation of the symptoms was only possible after the abdomen had been opened.

The cavity was now washed out with hot water, and the wound closed and dressing applied. A rectal injection of brandy and water was then administered, and the patient put to bed with the head low. The patient rallied, but the vomiting continued, and death took place twenty-four hours later.

The diagnosis, as a rule, is readily made. The pain and tenderness, together with rigidity of the right side of abdomen and the presence of a tumor, with the digestive disturbances, are sufficiently striking not to be overlooked.

Pepper lays great stress upon the necessity of examining per rectum to determine at an early date the existence of an inflammatory tumor and pus.

Constitutional symptoms do not enable us to make the diagnosis of pus, nor is it advisable to wait for distinct fluctuation. The thickness of the walls of the pus cavity, and the additional covering afforded by the abdominal muscles, make it extremely difficult or impossible to detect fluctuation even in very large abscesses. We are, consequently, forced to resort to the use of the exploring needle in order to arrive at a positive diagnosis. Bull says needle explorations are a justifiable and desirable method of diagnosis, though attended with some risks. These may be reduced to a minimum if care were taken to reserve the practice for cases in which the symptoms had lasted for several days, and in which a distinct induration tumor could be made out. The needle employed should be inserted obliquely (never perpendicularly), plunging it first near the iliac border and then into the lumbar region, pointing it forward and inward to the location of the cæcum. Gill Wylie, in cases of doubt, where there are chilly sensations or an elevation of temperature, considers it safer to open the abdomen in the median line and explore; his argument being that the sac of the abscess is rounded, and that while one of its aspects was adherent, another might be free. If punctured through the adherent portion, no harm results. If punctured through its free portion, however, the prick of the needle might allow its contents to escape into the peritoneal cavity and set up a fatal peritonitis. A case in which this happened terminated fatally in twelve hours in Bellevue.

The duration of the disease varies. It may terminate fatally in nine hours or last from one to five days. In children the disease is shorter than at a later period. When the case goes on to resolution it may last from fourteen to twenty-one days. Early operation and evacuation of the confined inflammatory products or pus materially shorten the duration of the trouble. If the abscess be allowed to burrow or rupture into the bowels or bladder, the resulting evil after-effect may extend over a long period of time. Even in cases which have resolved and are apparently in good health, adhesions resulting from prior inflammation, an encapsulated abscess, or fæcal matter temporarily shut off by adhesive inflammation, may light up new troubles through accident or indiscretion on the part of the patient. These relapses and recurrences may greatly prolong the duration.

Prophylactic measures may be resorted to in the young, particularly in those instances in which obscure and colicky pain are experienced at varying intervals. The least tenderness and pain in this region ought to be viewed with suspicion, and absolute rest enforced with a proper diet. In these insidious cases perforation in children has occurred after the use of laxatives or enema.

When an attack subsides, the greatest care should be observed to prevent a relapse. The bowels should be moved by enemata only, no purgatives. The restriction to fluid diet should be kept up for a number of days, nor should the patient be allowed to get up too early.

Recurrences, so frequently encountered, should be prevented by attention to the diet, moderate daily exercise, regular evacuations, and tonic measures to promote regular peristaltic action. Above all, the general health must be improved.

In a boy of five, who was under the care of an irregular practitioner, and who had improved and been frequently allowed to get up, a relapse occurred with fatal results. In another case, which I saw through the courtesy of Dr. N., the boy improved, and the parent, not understanding the necessity for rest for a few days longer, allowed the patient to get up and eat everything. Result, a relapse confining him to bed for some time longer.

Prognosis.—The disease is accompanied by a large mortality in the young. Grave complications may arise at any time, and the prognosis must be more guarded because of the greater danger of peritonitis. Willard Parker, quoted by Gerhardt, states that perforation and gangrene of the appendix are more frequent in children, abscess formation being more common in adults. The mortality, according to Whittaker, is as high as 70 per cent. in childhood.

Matterstock states that 44 per cent. die within the first seventy-two hours.

Treatment.—Sands, in his emphatic style, asserts that these diseases are surgical cases from their beginning, and that surgeons alone are competent to decide whether operations are expedient, and to perform them when necessary at the right time and in the proper manner.

Fagge, on the other hand, writes: "The course depends very largely upon the treatment which is adopted. . . . When the case is skilfully treated it scarcely terminates otherwise than in recovery. The essential points are that the patient should be kept perfectly at rest, that his diet should be strictly limited to slops, that he should not be allowed to take a single dose of aperient medicine, and that opium should be freely given." These are the extreme views—the one of the surgeon, the other of the physician. It is certainly true that a number with severe initial symptoms resolve and no further trouble is experienced. In others recurrences are met with at intervals, and subsequent attacks may result in abscess, rupture of prior adhesions, with purulent peritonitis and death.

Before an operation is indicated the principles of treatment, from the standpoint of the physician, are to avoid all sources of irritation from within and from without. The patient should be kept in bed, absolutely at rest, to insure rest to the inflamed parts; he should not be allowed to sit up for any purpose whatever. The flexed thighs may be supported by a pillow under the knees. Liquid diet only should be allowed; in cases of frequent vomiting rectal feeding or stimulation may be necessary. Opium or hypodermics of morphia in sufficient quantity to relieve pain. The cases have usually been thoroughly purged by the lay attendants without material benefit before the physician is called in, and enemata only should be employed to relieve the constipation after the first few days. No purgatives of any kind *should be* allowed before operation. The lesion is in the appendix, and but rarely in the cæcum; the latter, except in stercoraceous typhlitis, is usually empty. The increased secretion and peristaltic action might precipitate rupture or favor the escape of fæces into the peritoneal cavity. Dr. Habershon, quoted by Fagge, states that he has, at post-mortem examinations, seen castor oil floating on the contents of the abdominal cavity. It seems just as rational to resort to purgatives in injury of the intestines due to traumatism or pistol-shot wounds, etc., as it is to advise them in perforations of the appendix. The risks of early exploration in the hands of a careful antiseptic surgeon are less than the harm done by the *injudicious administration of cathartics* before operation. After the operation has been performed, Tait's plan of administering salines will act beneficially by preventing adhesion, carrying off the morbid products of inflammation, and lessening the engorgement.

Leeches have been applied at the outset of the disease with advantage. Belladonna and mercurial ointments have been advised. Cold applications of various kinds have been used and with benefit, particularly at the outset of the trouble. Hot applications are favored by others. External applications, of whatever kind, do not seem to make any material difference in the ultimate results. The œdema of the skin produced by the poultice may obscure the local evidence and make the diagnosis more difficult; on the other hand, warmth is more grateful to the patient generally. The feelings of the invalid form a valuable guide here; whatever affords most relief should be used. The meteorism is greatly relieved by the application of hot turpentine stupes. A long rectal tube, cautiously introduced, will at times favor the escape of large quantities of gas. Puncture of the intestines, in view of the paralytic condition of the walls, is attended with great danger.

Should the temperature become normal after a few days, and the local symptoms diminish, resolution is probable. Persistence of fever and swelling, debility, emaciation, sweating, and profound anæmia point to suppuration. Frequently the temperature will be low, even though the pus be present; this should not be forgotten.

Bull, in a recent article read before the Medical Society of London, says: "The general plan of surgical treatment should be as follows: The more rapid the development of the symptoms, the earlier should the surgeon interfere. In the presence of signs of spreading peritonitis, laparotomy should be performed at once, whether they were manifested immediately after the outset of the disease or in the course of milder symptoms. An exploration in cases of doubt would be preferable to waiting for further indications. When peritonitis remains strictly circumscribed the abscess should be opened by the end of the first week, or as soon as pus could be detected with the needle. But, even if no pus could be found in this way, an incision would be justifiable in the presence of such symptoms as were indicative of prolongation of the suppuration in the cellular tissue."

Bull prefers for laparotomy in these case a vertical or slightly oblique incision three or four inches in length, leading up from a point a finger's breadth or an inch above the middle of Poupart's ligament; and for incision of the abscess a cut starting from the same point, but directed either parallel to the ligament or approaching nearer the vertical, according to the situation of the induration. Gill Wylie prefers for a laparotomy, particularly when extensive peritonitis or adhesions are suspected, an incision in the linea alba, below the umbilicus. Sands advises the vertical incision over the caput coli.

The abscess should be approached by gradual and careful dissection layer by layer. The Hilton-Roser method is unsafe. When the cavity has been reached, thorough digital exploration should be practised, not only to discover the foreign body or concretion, but principally with a view to ascertian the direction and extent of the burrowing, so that the drainage-tubes may be inserted accordingly.

CONTAGIOUSNESS OF TUBERCULOSIS.

By William Porter, M.D., Chairman of a Committee appointed to report to the Mississipi Valley Medical Association at Evansville, Indiana, 1889.

A year ago, when I was appointed a member of the committee to report upon the Contagiousness of Tuberculosis, I fully expcected to be able to present to you a condensation of all the writings upon this subject to date.

Those of you who have noted the current medical literature for the last twelve months will agree that such a purpose could not be now carried out in the time to which our papers are wisely limited·

Moreover, I believe that a free discussion of this subject will profit more than the presenting of even the most exhaustive report; therefore I will not embarrass the former by attempting the latter.

The choice of the term "contagious" is not a happy one, and yet it has a conventional meaning well understood. I shall here use it as meaning transmissibility. The word "portagious" suggests a thought which should always be kept in mind in our care of phthisical cases, which is that tuberculosis is a disease that can be carried; that the specific elements are portable. This, if we were to hold to the exact use of scientific terms, is more accurately descriptive of that feature of tuberculosis under discussion than is the word "contagious." Let us to-day, however, employ these terms as expressing the same idea, and thus avoid confusion and misunderstanding.

The careful reader of to-day cannot but notice the almost entire unanimity of opinion as to the possibility of the contagiousness of tubercular disease, and it is not so much to argue this proposition as to speak of the manner of transmission that I will claim your attention.

In all experiments made to determine the transmissibility of tubercle, it is well to accept the presence of the "tubercle bacillus" as a definite proof of the existence of tubercle. As I have elsewhere said, I am not fully convinced that it is always the cause, or, as many able writers say, the only cause; but even this may some time be demonstrated. At present (and I think this will suffice for our purpose to-day) I believe that if the bacillus is not the cause of tuberculosis it is at least the result.

The causative relation of the bacillus to tuberculosis is not, however, our theme, and, lest we fall into profitless discussion by the wayside, permit me to return to the subject proper—the question of contagion.

At the outset we are met with the question : Can tuberculosis be directly inherited ? or, to state it more plainly, can a new-born child have in its tissues bacilli transmitted dircectly from the father or mother ?

We all admit that a child may inherit a particular conformation of chest, or a constitutional predisposition which may favor in after years the development of conditions favorable to tubercular invasion; but whether the fetus may be infected through the ovum or spermatozoa is doubtful, though such infection may probably be accomplished through the placental circulation.

Johns claims to have proved placental infection to exist in the cow, and Baumgarten, as well as some others, affirm that a child may be born with bacilli tuberculosis in its tissues, which may remain latent for years, or even during the life-time. Landouzy and Martin have caused tuberculosis by inoculating animals with the placenta of tuberculous patients.

There is considerable evidence, therefore, to show that tubercle may be directly inherited from the mother, but never from the father. And the great probability is that instances of direct inheritance of tubercle are very rare indeed.

One such instance, however, was in my own practice during the past year. A lady patient far advanced in pulmonary tuberculosis gave birth to a child which died in seven months with well-defined tubercular diseease.

Leaving the solution of the problem of direct inheritance of tubercle to the futnre, let me offer two propositions which I believe are susceptible of demonstration, and, if so, are of the greatest practical value in their relation to human life:

1. The products of tubercular disease my be carried from a diseased human subject to one apparently healthy, in whom, as the result of such transmission, all of the well-known processes of tuberculosis may follow. In such cases the respiratory tract is generally primarily affected.

2. Through the media of meat and milk tuberculosis may be transmitted from diseased animals to man. In these cases the alimentary tract is first invaded.

Other methods of transmission are recognized by leading investigators; but these two, being the most important, will fully occupy our time.

The proposition that tubercular products from a diseased individual may be engrafted upon and infect a non-tuberculous subject through the respiartory tract is not only of the greatest interest, but of first importance.

I need not refer to many of the numerous experiments that have been made upon animals to determine the possibility of acquiring tuberculosis through inhalation of air loaded with particles of diseased matter. The researches of Villemin and Chauveau, twenty years ago, were demonstrations of the fact that tubercle could be conveyed by inoculation. The objection made by Sanderson and Fox, that tubercular conditions could be produced by inoculation with non-tubercular material has, I think, been well answered by Martin, of Paris, who, from numerous experiments, concludes that, after inoculation with tubercular matter, general tuberculosis may be produced and the virus acquires increased potency when inoculations are made in series of animals of the same species. On the other hand, the inoculation of non-tuberculous matter may produce tubercles which, however, do not, when inoculated, give rise to general tuberculosis, and this virus, after several terms of the series, seems to lose the power of causing even a characteristic local inflammation.

If we accept as true the statement that tuberculosis may be conveyed by inoculation, we are prepared to receive the further statement that it may be transmitted by the inhalation of the products of the disease. There is ground for the belief that many of the instances of acute infectious diseases which have their gravest manifestations in the air-passages are cases of inoculation; in diphtheria, for instance, where the mucous membrane, denuded of its epithelium, becomes a suitable place for the reception and propagation of the specific germ, or in erysipelas of the upper air-passages, where probably a similar phenomenon takes place, and possibly in scarlet fever, and, as some European writers think, in cases of specific pneumonia.

What is the evidence to warrant us in concluding that tuberculosis may be contracted in this way?

1. The experiments upon animals by Tappeiner in 1883, who found seventeen tuberculous animals out of eighteen that had been made to inhale tuberculous sputa.

2. The results of Koch's trials, who found within twenty-eight days tubercles in the lungs of guinea-pigs that had been made to inhale material from phthisical cavities.

The experiments conducted by Cadeac and Mullet showed that while the expired air from tubercular gave negative results, the inhalation of air which contained particles of dried sputa from the same patients produced tubercle in two out of twelve of the guinea-pigs employed.

Some experiments of my own (Portagiousness of Phthisis, *Journal American Medical Association*, March 1, 1888), which need not be given in detail, showed that where tuberculosis was produced in a guinea-pig by inoculation, it was possible to infect a previously healthy animal by causing it to inhale the air from a close box in which the diseased one was confined.

When we come to a practical study of tuberculosis in the human subject, the evidence of its transmissibility is, I think, conclusive. I need not here detain you by citing individual cases in proof of this assertion, for probably each of us will remember instances where, if there was not actual demonstration of the contagion of tuberculosis, there was at least circumstantial evidence strong enough to deeply impress us.

Aggregated investigations are always more valuable than isolated instances. We find that the Collective Investigation Committee of London received replies to inquiries from 261 physicians in active family practive, affirming the proposition that phthisis may be communicated from the sick to the well. In these answers many cases were related which seemed to leave little room for doubt.

In this country pathologists of the New York Board of Health have gone so far as to distribute published rules for the prevention of consumption, based upon the knowledge of its contagious nature.

At a meeting of the Paris Academy of Medicine M. Villemin read a report of the special committee appointed by the Congress for the study of tuberculosis last year, which it was proposed to publish, with the object of instructing the laity as to the nature of the disease, and the best means of avoiding contagion. The report calls attention to the fact that pulmonary phthisis is not the only form in which tuberculosis manifests itself, but that many cases of pleurisy, peritonitis, meningitis and bone and joint diseases are often tuberculous. The report insists upon the contagiousness of the disease, and refers to the various ways in which the bacillus may gain entrance into the body. Since the sputa of phthisical patients usually contain the bacilli in large numbers, special care should be paid to the immediate destruction of all expectorated matters.

In a paper by Dr. J. E. Squire, before a recent meeting of the London Epidemiological Society, the statement was boldly made that the discovery of the bacillus tuberculosis allows us to place phthisis in close relation to the class of infectious diseases, toward the control of which preventive medicine has already done so much.

Dr. Cornet, in an excellent paper read before the Berlin Medical Society, only voiced the opinion of many other writers when he said the chief danger of contracting phthisis by contagion lies in the dried sputum, which is often turned into respirable dust.

Dr. Lawrence Flick, in a paper read before the Pennsylvania

Medical Society last fall, says "contagious diseases are dependent upon a diseased germ and cannot be contracted except through the medium of that diseased germ. Every case is dependent upon some other case, and no case can spring up of itself." He then endeavors to show, by a careful topographical study of phthisis in the Fifth Ward of the city of Philadelphia for a period of twenty-five years, that consumption observes this law.

Few physicians are ready to accept such advanced views as these, and yet a careful study of Dr. Flick's essay will show good grounds for his assumption.

Objectors to the doctrine of the contagion of phthisis often quote the statistics of the Brompton Consumptive Hospital, which show the fact that the medical attendants and nurses at this famous institution have been singularly free from tuberculosis.

Instead of arguments against the probability of contagion, are not these facts, of which you are all aware, evidences of the value of prevention? Where could we find better hygienic conditions than in such a hospital? and it is to just such conditions that the advocates of contagion look for relief. If the fact that the resident physicians and nurses at the Brompton Hospital seldom become victims of tuberculosis is a proof of the non-contagiousness of the disease, then by the same process of reasoning can we prove that diphtheria, erysipelas, and even cholera, are not contagious.

A most interesting fact in keeping with the idea of the transmissibility of phthisis is that localities once famous for freedom from tubercular disease may in time acquire a doubtful reputation as health resorts for phthisical patients.

Dr. Benjamin Rush wrote that consumption was unknown among the North American Indians in the early history of the country, and very infrequent among the early settlers of New England. A hundred years ago the climate of New York was thought to be curative in cases which had acquired phthisis in the Old World. Afterward the level prairies of Illinois, and since then the mountains of Colorado and the salubrious atmosphere of Calfornia have been Eldorados of the victim of tuberculosis.

That there is much in the curative influence of climate I may believe; but the point I wish here to make in accord with the idea that tubercle is transmissible is, that a place or a people once free from the ravages of tuberculosis, may, by being brought into association with tuberculosis and by ignoring sanitary precautions, acquire conditions needful for the spread of the disease.

I wish to emphasize the idea that when a certain locality becomes famous as a resort for consumptives, the strictest care should be taken by those in authority to enforce all that is now known of sanitary and hygienic laws to prevent possible transmission of the products of the disease. Who has not seen muco-pus left by the victim of tuberculosis slowly drying on the grass or gravel in front of the summer hotel, needing only time and a gentle breeze to be wafted in broken doses, possibly even into the sleeping chamber of the unconscious and the unguarded. We vent our indignation upon the unlucky wight who drops the orange rind or banana peeling upon the sidewalk, but fail to notice him who, himself the victim of the dread disease, unconsciously or ignorantly places a greater danger in his neighbor's pathway.

The statement has been made by Flick and others that patients with phthisis have greater immunity from other contagious diseases. Dr. Welch says that, having seen upward of 5,000 cases of small-pox at the Philadelphia Municipal Hospital, he does not remember one who had well-marked phthisis. Dr. Longstreth, Pathologist to the Pennsylvania Hospital, in twenty years has never found consumption in an autopsy for typhoid fever.

Thus it appears that the study of tuberculosis as a contagious disease is each year presenting new and interesting conclusions, and certainly we have reason to hope that the line of investigation so largely directed by Koch's discovery may ere long bring about results which will be of greater practical advantage than any with which we are now familiar.

2. Having gone somewhat hurriedly over the grounds upon which are founded the theory of the transmission of tuberculosis from man to man, let us see what reason there is to believe that it can be carried from animals to man.

You are all familiar with the unanimous conclusions of the Congress on Tuberculosis, held last year in Paris, which was in support of the idea that tuberculosis is contagious, and that there is positive danger to the human race from the consumption of the milk and flesh of tuberculous animals. It was proven by numerous experiments that animals fed upon diseased meat were exceedingly liable to become tubercular, and then it was demonstrated by Carmil, who had made a special study of the subject ,that the tubercular bacillus, as found in such animals, may penetrate the unbroken mucous membrane of the respiratory and intestinal tracts.

M. Moule and also M. Cagny had observed that domestic fowls were often the subjects of tuberculosis, the disease being found first in the abdominal organs. This I believe to be a most timely warning against a danger next to that of bovine infection. Some of you may have seen the barn-yard fowl destined for early enrollment on the menu card picking over the debris from tuberculous patients who have been attracted by the well-known reputation of the place for good water, pure air, and the best of food. It is not pleasant to think of such things, but unless we think of them we cannot remedy them.

A learned paper by an honored member of this Association, Dr. J. A. Ouchterlony, was read before the Kentucky State Medical Society, in which he expressed his conviction that there could be no security from tuberculosis so long as tuberculous meat and milk are used. "The disease is contagious, infectious, and not congenital. It is transmissible, especially through the alimentary canal and respiratory tract. Rabbits kept near tuberculous patients contract the disease in twenty-seven days. Rabbits suspended in cages so as to breathe the air exhaled by tuberculous cattle contract tuberculosis. The lunas are the primary seat of the infection. It may be contracted through the integument, mucous membrane, abraded epidermis, wounded and abraded surfaces. Tuberculosis in dumb animals is identical with tuberculosis in man. Transmissibility to other species is very frequent."

In a recent paper on the Communicability of Tubercle through Cow's Milk, Dr. Louis Parkes, of the University College, London, says: "While not denying that the tubercular virus may find other means of reaching the digestive tract than through unboiled cow's milk, it appears to me that there are no sufficient safeguards in the management of town dairies to warrant us in assuming that milk from cows in an advanced stage of tuberculosis has no chance of being mixed with the milk of other healthy cows. In every dairy of any size there will probably be tubercular cows, some of them, perhaps, with tubercular deposits in the udders; and as it is the common custom with dairymen to mix together the milk yielded by different cows, it is not too much to assume that tubercle bacilli may be widely distributed in the milk supply of any town. It has been said that the tuberculosis of cattle is not the same disease as the tuberculosis of man, and that the absence of any proof of the human variety having ever been dependent upon ingestion or inoculation of the virus of the bovine variety tends to strengthen that belief. To this it may be replied that the bacilli of bovine tuberculosis are identical, according to all bacteriological methods at present known, with those found in tubercular formations in the organs of man, and that, although the disease presents anatomical differences in man and cattle, these differences may be explained as being due to differences of soil in the human and bovine tissues, the bacilli ingrafting themselves in those tissues which present conditions most favorable to their growth and development. Secondly, absence of proof may only mean want of observation or recorded data, and cannot be held to imply that at no future time will satisfactory evidence of the human disease upon a bovine source be brought to light."

If time did permit I would quote at length from the paper of Dr. Paul Paguin, presented at the Missouri State Medical Society last May. He asserts that "the milk of tuberculous cows, especially those having lesions in the mammary glands—a common thing in grave cases, by the way—has been found by Degive, Bouly and Nocard, of France, Bollinger, in Germany, Bang, in Sweden, Harsten, in Belgium, Lydtin, in Switzerland, Fleming, in England, and a few American pathologists, to be capable of producing tuberculosis. I myself have found extensive tuberculous lesions in the mammary glands of milch cows, and I have known of some cases of tuberculosis induced by bacilized milk."

The important question for us as physicians is, can the danger of transmission be averted? So far as our present knowledge goes we might answer, not entirely; but if there be value in the carefully formed conclusions made from the scientific work of the last decade, much may be done to limit the number of victims of tuberculosis. We may not all be ready to fully indorse the statements authorized by the New York Board of Health, that tuberculosis is a distinct disease, that it is not directly inherited, and that it is acquired by direct transmission of the tubercle bacillus from the sick to the healthy, usually by means of the dried and pulverized sputum floating as dust in the air. For myself, I am convinced that in this direction is the safest path, and as no harm can come from excessive care regarding food and sanitation, I am willing to advise such care, though it seems to be excessive.

From experiments made upon animals and observations upon the human species, it is plain that much of the danger of contracting tuberculosis lies in the inhalation of air loaded with tuberculous sputa. Surely the danger can, to a large extent, be met by insisting that tuberculous patients should, as far as possible, use a cuspidor in which is a solution of bichloride of mercury at least 1 to 1,000, for it has been demonstrated that the bacillus can live in solutions of less potency.

Cuspidors and cloths which are used to receive the expectorated material from diseased lungs should, as far as possible, be kept moist, and the bed-clothing thoroughly freed from all power of contamination. There is nothing which demands correction more than the uncleanly and unsafe practice which many follow who have care of consumptive patients, of placing newspapers on the floor by the bedside upon which the expectorated masses are gathered and dried for free distribution in the household.

The careful disinfection of the room which a tuberculous patient has occupied is a matter of detail not to be overlooked by the medical attendant.

So far as protecting the public against food containing tubercular products is concerned, it can only be accomplished by thorough inspection. It is certainly the duty of each physician who is himself satisfied that such danger exists to endeavor to impress the public mind with the importance of proper legislation upon this subject.

If we are convinced that tuberculosis is contagious, and will but work up to our convictions, it is possible that the first step will then be taken to place this much dreaded disease under the same treatment as is small-pox and the once all-destroying plague.

Although none of us may be willing to ignore the agency of individual tendency, physical formation, and other conditions as predisposing factors in the causation of tuberculosis, yet, as we get away from the idea of heredity and approach the more tangible view of transmission, the future is brighter with promise, and will, I have no doubt, be more abundant in practical results.—*Amer. Practitioner and News*.

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., } Editors.
GEO. GILLETT THOMAS, M. D., " }

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VISITING SPECIALISTS — THE BASHFUL, LAZY AND INDIFFERENT MEMBERS OF THE SOCIETY.

Besides the invited guests of distinction, who from year to year visit the Medical Society of North Carolina, there are a few specialists who come for purposes of professional business. These gentlemen are always welcome, and, indeed, sometimes get the lion's share of personal attention, because they are pleasant company, and versed in the subjects which interest most of us. This is all very well, but they go farther than this, and are rather importunate in getting on the programme for a paper, the moral of the dissertation being clearly that for all such ailments as described be sure and seek the skilful specialist.

The time has come now when the line should be drawn, and no paper should be admitted except such as have been officially invited by the Society.

The Medical Society of North Carolina was organized for the promotion of the profession of this State : its meetings are designed to bring the young and the old together, to interchange the knowledge, and, above all things, to encourage our own members to bring their scientific contributions, coming prepared to take personal part in debates. It is a matter of experience that some of our young men are too diffident to speak before distinguished men, some of whom were possibly their teachers, and so make no effort to bring of their learning to the general fund, and in the intervals of our meetings they are not studying and recording at the bedside and in their offices such observations as every educated physician is daily meeting with. There is therefore no proper scientific impulse given by the Society meetings to the non-participating member, and he drudges through the year to eventually fall into the hum-drum of making a living—fossilizing, in other words.

We are conscious of the fact that we have made rather too much of the argument we began with, but we simply reassert that no papers should be considered by the Society that are not specially invited, and that every proper means should bé employed to induce the lazy and indifferent members to observe, record, digest their varied experiences, primarily for their own good, and also for the general good.

DIGITALIS holds its position as the most reliable heart tonic, notwithstanding the new addition to the list. Digitaliis in powder is more efficacious than the decoction. All the *digitalins*, amorphous and crystallized, are to be shunned as not at all identical, and exceedingly poisonous.—*Therapeutic Gazette*, Sept. 15.—(Paris correspondence from International Congress of Therapeutics.)

REVIEWS AND BOOK NOTICES.

Cyclopædia of the Diseases of Children, Medical and Surgical. Edited by John M. Keating, M.D. Philadelphia: J. B. Lippincott & Co.

Surely these are days of literary clover for medical editors. Our tables are burdened with sumptuous volumes on various topics, but none can be handsomer than the one before us. The book-maker's art has been expended liberally and successfully, delighting the eyes with clear type and paper, and so preparing the reviewer at once to write only with approbation.

This is the second volume of the Cyclopædia, and comprises 1066 pages, from the pens of authors of acknowledged ability.

Diseases of the Skin, Constitutional Diseases and Diseases of Nutrition, Diseases of the Respiratory Tract, Diseases of the Circulatory, Hæmatopoietic and Glandular Systems, and Diseases of the Mouth, Tongue and the Jaws are the grand divisions, and the subdivisions are numerous. It may be objected that too much stress is laid upon the diseases which are not strictly confined to children, that the descriptions of tuberculosis, asthma, hay-fever, pleurisy, might as well have been left to the general treatises on practice, but it will be seen by reading this work carefully that the addition of new facts on the subjects treated, and that it easily takes its place as a rival of the great work of Barthez and Rilliet, is reason enough that it should be complete in itself. Especially is this true in regard to the section on diseases of the skin.

The illustrations are abundant and some of them unique, as, for instance, the photograph of the Cretin girl "Sarah," and the rickety child, both diseases, fortunately, as regards our section, unknown or exceedingly rare.

This great work easily takes its position with the best American "Systems," "Cyclopædias" and "Hand-Books," and a medical library of any pretensions cannot afford to deny itself this rich acquisition.

Annual of the Universal Medical Sciences, etc. By Charles E. Sajous, M.D., and Seventy Associate Editors. F. A. Davis, Philadelphia, 1889.

This second instalment of five volumes of Sajou's Annual for

1889 is fully equal to the set of 1888, and in many respects superior. It was doubted by many of the enthusiastic supporters of the first issue if such a work could be kept up to a standard so high—this issue answers in the affirmative. Many convenient additions and improvements have been made to simplify references—medical journals and volumes being numbered, and referred to by number in the text, with date of issue. Each volume has an index, quite complete in itself, the pagination being by alphabet for each special heading in the volume, and not continuously, which gives some advantages in ready reference. The index of the final volume is general, and divided into three columns, one column devoted to therapeutics.

No better criterion of the success of a volume can be obtained than the use which practical students make of it, and from every direction we hear of the great help which physicians have obtained in consulting its pages, one of them, particularly, who reads the best journals and supplies himself with the choicest current volumes, speaks of the perusal of "the Annual" as being equal to a post-graduate course.

Of the subjects considered no analysis could be made in a review suitable to our pages. While it would be impossible for all the subjects to be treated with uniform ability, there is a nearer approach to it than would seem likely to be obtained. We do not think we venture much when we say that perhaps there is no subject considered in these volumes which gives greater evidence of the substantial advance of medical knowledge than that of Tuberculosis, and none of the editors show more talent in presenting a judicial digest of the state of that knowledge than Dr. J. T. Whittaker. No doubt it will occur to other readers that some other subjects in which they are more interested will impress them with equal force.

The question of most of our readers will be, would you recommend the investment of $15 for "the Annual"? and we unhesitatingly say, Yes!

ESSENTIALS OF MATERIA MEDICA, THERAPEUTICS AND PRESCRIPTION WRITING, arranged in the form of questions and answers, prepared especially for students of medicine. By Henry Morris, M.D. Philadelphia: W. B. Saunders, 913 Walnut St. 1889.

This is a book of 250 pages, as the title indicates, prepared for the use of students. An examination shows that the author has included the more recent additions to materia medica, and is well up to the times in all that he describes. The question and answer plan will always take precedence with students, bringing out the essential desiderata as no other plan can: but for other purposes than refreshing for an examination, such books ought to be avoided by the student. The increase of Boards of Examiners in all the States will create a demand for this and other books of a similar character, and it will be well if they are all as good as this.

Constipation in Infants.—A friend has called our attention to an infant whose mother has taken it the rounds of the Wilmington doctors, with little help, for its relief. The remarkable point was that this was the fourteenth child of the same woman who had died with constipation. Purgatives of the milder sort were tried, and then the more active ones, constipation being at last overcome by a decoction of cascara, senna and nux vomica.

A medical practitioner whose whole life is not that of a persevering student has no business in the profession. A man who knows nothing but what his curriculum enforces, and who makes haste to forget that as soon as it has obtained him his license to practice, can only bring discredit on the high-minded and cultivated men who spent their lives in making smooth the path he has unworthily trodden. If medicine is to hold its high position, and retain the respect in which it is justly held, the men who are coming forward for its emoluments and distinctions must be equipped with all the richer learning which is required to enable them to hold their own in the world which is daily becoming more highly cultured, and which will certainly demand more of its medical advisors. A mental outlook bounded by six-ounce bottles, and an intellect from which there is gradually fading the scanty lore gathered at the medical school with much pains and but partial comprehension, far too generally characterizes the middle-aged general practitioner of to-day. He of to-morrow will need to know more, and to know it in quite another way.—*Medical Age.*

CORRESPONDENCE.

SOME PRACTICAL POINTS ABOUT SUPRA-PUBIC CYSTOTOMY.

Richmond, Va., October 14, 1889.

Dr. W. W. Lane, Wilmington, N. C.:

Dear Dr. Lane:—I have received a copy of the North Carolina Medical Journal containing your account of an operation for retention of urine in a case of enlarged prostate.

I congratulate you on the successful result obtained by your skill, under such difficulties. I hope you will never have to operate again without a rectal bag of some kind. When the rectum is well dilated it pushes the bladder out of the pelvis; forces it close to the anterior abdominal wall; gets the peritoneum well out of the way of the knife; makes the operation exceedingly simple and a safer one, too, than that of tapping the bladder with the trocar or aspirator. If you have no rectal bag, the bladder of a small pig will answer the purpose. The pig's bladder should be large enough to hold, when distended, 10 or 12 ounces of fluid. Into the neck of this bladder insert a short glass tube, or piece of pipe-stem, or very stiff quill, and tie the neck tightly over one end of the tube. Over the other end slip a piece of drainage-tube or soft gum catheter, and tie it tightly there. Or, better still, when a hog is killed, the bladder and a long portion of the urethra may be dissected out, dried and put away for use when needed. Properly prepared, this would make a first-rate rectal bag, not quite so elegant as are made by the instrument-maker, but answering every purpose.

When you have a case of retention of urine from an enlarged prostate, or stricture, and it is impossible to introduce the catheter there is no time to lose. The patient cannot be transferred to some practitioner of greater experience or facilities, and if the country practitioner (who can get a pig's bladder, a sharp pen-knife, and a tenaculum, made, if need be, out of the prong of a common iron table fork) can be made to realize how simple the operation of making a supra-pubic artificial urethra is, great suffering and many lives would be saved.

With thanks for the kind reference you make of me,

I am, sincerely, yours,

Hunter McGuire.

MEXICAN IDEAS OF THE CONTAGIOUSNESS OF CONSUMPTION—PREVALENCE OF SMALL-POX AND NEGLECT OF VACCINATION—GOITRE IN THE SIERRA MADRA.

Los Yeoras, Mexico, September 25, 1889.

Messrs. Editors North Carolina Medical Journal:

Dear Sirs :—I write to thank you for the June number of the North Carolina Medical Journal, which was received sometime ago, and also for the Bulletin of the State Board of Health, and Proceedings of the Sanitary Association, all of which I have read with a great deal of pleasure.

The article by Dr. Biggs on "The Principles of Treatment in Pulmonary Tuberculosis" particularly interested me. The Mexicans here, I was surprised to find (and am told that it is true in other parts of the country), have arrived at similar conclusions with regard to the transmission and predisposition of pulmonary tuberculosis, as set forth in the able paper by Dr. Biggs.

The first death that occurred in my practice here happened to be a case of pulmonary phthisis. Immediately after the body was removed for interment, sulphur was burned freely throughout the house, the walls were scraped and a fresh coat of whitewash applied. These precautions they use in no other diseases than yellow fever and phthisis. Of course, they are in utter darkness as regards Prof. Koch and the existence of the tubercle bacilli, the source of infection, etc., and could only have determined upon the infectiousness of pulmonary phthisis from observation.

It is a simple fact that, although they deny the hereditary transmission of pulmonary tuberculosis, they consider it a source of great mortification to have consumption or to be related to one affected with this disease. You may tell a man that he or his wife, or any of his family, has syphilis, and nothing is thought of it. He will simply inquire about the treatment, and does not care who knows of his trouble. But if the case is one of phthisis, he will request you to call it by another name and enjoin secrecy. The repugnance to anything pertaining to phthisis is as great here as in some parts of California, where, for instance, to call a man a scoundrel is a small matter, but to call him a *consumptive* scoundrel means a fight.

On coming into Mexico one cannot but be struck with the great number of pock-marked faces he encounters on every side. Variola in Mexico, as far as I can learn, is like their beggars—first in one part of the country and then in another, but always with them. The fact that the disease can be controlled and almost stamped out of existence, as is the case in her sister republic, the United States, seems just to have dawned upon the officials at the capital, and then only after a very severe epidemic of the confluent type occurred in their very midst.

They are now importing virus from the United States and from England, as their own supply is in no way adequate to the demand. Epidemics have occurred in several of our neighboring towns, and with a variable degree of severity. In a town of about 600 inhabitants, situated in an adjoining State, it is a fact that, when the epidemic was over, scarcely a child remained, while in other localities the disease was of a much milder type. The people cannot be made to realize the necessity of a quarantine or vaccination. They consider small-pox much as we do measles, and say that as they can have it but once they might as well have it over as soon as possible. But one case has occurred here during my four month's residence. Why it did not spread I cannot see, for the attempts at a quarantine utterly failed, and vaccination proved but little better.

In the city of Mexico they give twenty-five cents to every man who brings his children to be vaccinated. In our camp we rather reversed this order of things and imposed a fine of five dollars upon all who did not bring them, and in this way we vaccinated all the children who had not had the disease; but for some unknown reason with but indifferent success. Although we received the virus from the United States and from two different vaccine farms and repeated the operation several times on the same subjects, less than one-quarter of the number vaccinated have taken successfully, and even worse results occurred in the hands of two physicians of my acquaintance. Of the results obtained in the city of Mexico I have no knowledge. I do not think that so many failures can be due to errors in the technique of so simple an operation, for in my hospital course I had no little experience and some success in vaccination but is due rather to heat and moisture on the road. With a view to obtaining my own vaccine, I am collecting some technical information, and hope soon to commence a series of experments. If you could give me any information on the subject I should be extremely gratified. In this, locality, as, indeed, is the case throughout the whole range of the Sierra Madre Mountains, a very large percentage of the population are affected with goitre or simple bronchocele. It seems to be first noticeable in both sexes at puberty, and this grows quite rapidly sometimes, assuming enormous proportions and interfering very materially with respiration and deglutition. Foreigners, no matter how long they have been in the country, and their children born here are singularly exempt from this disease. As yet no remedy with which I am acquainted has been successful in the relief of this condition, I have used iodine as recommended in the text-books, but with no benefit. There are a considerable number of lepers, I am told, scattered through the country, and a few quite near to us. As yet I have seen none in Mexico, but shall take the first opportunity to visit them.

Yours, very sincerely,
George H. Mallett.

A STRANGE EXPERIENCE WITH TAPE-WORM.

Ringwood, N. C., ——, —, 1889.

Messrs. Editors North Carolina Medical Journal:

Dear Sirs:—About twelve months ago I was consulted by a drummer, a very particular friend of mine, who complained of intense itching around the anus, which was always worse soon after going to stool. After a few questions I diagnosed ascarides and directed him to inject into the rectum a weak solution of carbolic acid and to press his bowels open. I advised him to keep this up until he felt relieved. About a week or ten days after I received a letter stating that he had followed directions closely, and, to his very great surprise, one morning passed about ten feet of *tape-worm.* For a short while after this he was not bothered with the itching, and thought himself well. Very soon the symptoms returned, and as he informed me, he daily passed from 20 to 40 segments of tape-worm, and had regularly two evacuations daily. He wrote to me to know what to do, and I directed him to fast twenty-four hours and take the following on an empty stomach :

℞.—Fld. ex. male fern, ʒ iss.
Pulv. kanala, ʒ iss.
Mucilage acacia and simple syrup, q. s., ℥ iii.

And directed to take ½ at one dose and repeat in two or three hours and follow the last dose in two hours with a tablespoonful of castor oil. He reported afterwards that he passed at least 20 feet of tape-worm and searched for the head, but could not find it. All symptoms disappeared for several weeks, when they returned more aggravated than before. He was travelling out of the State and consulted several physicians, and would get relief, but no cure.

In April last he came to see me, stating that it troubled him a great deal, and unless he had two good actions a day he could see no peace. He looked unusually well, had lost no flesh, had a good appetite, somewhat irregular and abnormal, but not much, and said he had occasionally gripings in his abdomen, but not severe or protracted. But he stil passed large quantities of the tape-worm segments at evacuation. He remarked to me that if I knew anything that would remove that "durned old tape-worm" he was willing to try it, no matter how severe. But he said that medicine I had given him before was the meanest stuff he had ever tried to swallow, and, although he would swallow it, he did not think it would stay on his stomach, and that he vomited up one dose when he took it before, I told him I would do the best I could for him, and treated him as follows: Made him fast absolutely one day and night, having given him a dose of rhubarb and calomel to clear out the alimentary tract.

The second day, early in the morning, I gave him (♏. 10) chloroform in water, and repeated it in an hour. I then gave him oil male fern, ʒ i, *in capsules*, and pulv. kanala, ʒ ss., and followed with about half a glass of mucilage and water, in which I put about ♏. 15–20 oil turpentine. I gave the mucilaginous drink to dilute the male fern in his stomach so that he would not vomit—a thing he felt very much inclined to do. In two hours I gave oil male fern ♏. 45. I intended to give ʒ i., but he said he could not take the last capsule without vomiting, so I withheld it. Three hours afterwards I gave castor oil, ℥ ss. This was the afternoon of the second day, and he had only taken one glass of milk. About a couple of hours after this he went to stool, and, as he expressed it, "it seemed as if everything in me came out at once as soon as I took my seat." He called me at once and told me he thought we had gotten the old gentleman at last.

After careful examination I found four distinct tape-worms, the shortest 10 feet long, as I stretched them out and measured them. All four amounted to 50 feet, and then there were several short pieces I did not measure. On each piece, at the lower end, the segments were about as wide as your thumb-nail, and they got smaller and smaller as you approached the head, until they were no larger than a thread of knitting cotton. I did not succeed in finding a single head, and yet *I think* my patient thoroughly cured.

Two months have elapsed, and he is in perfect health, and has had not the slightest symptom to return, and felt himself cured.

Although I could not find the *heads* of any, I must have gotten them, or within a very short distance of them, and Flint states if they are broken off very near the head, it is very apt to die; this must have been the case, or else the head was in the fæces and I broke it off in my attempt to straighten it out, for they were all doubled up on the ground.

Reader, this tale of four tape-worms from one man at one time may seem marvelous to you, and especially so as they amount to 50 feet, but I can assure you it is equally marvelous to me. *I* could scarcely believe my own eyes, and my patient was disgusted to think he had carried 50 feet of worm around for twelve months. If you are a doubting Thomas, I can't blame you, but remember if Thomas had never belived, it would have been Christ who appeared to him all the same.

I have never heard of such a case before, but I am a young physician, and that may explain it, but perhaps my experience may in some way be of benefit to some of my young brothers in the profession. I am a graduate of the University of Maryland.

A. S. HARRISON, M.D.

CURRENT LITERATURE.

THE VALUE OF LAPAROTMY IN SUPPURATIVE PERITONITIS.

Dr. J. Cronyn, of Erie county, read a paper on this subject. Operative procedures in these cases, he said, had been much lauded within the last few years, and many cases had been reported where great success had resulted, and where it was reasonable to assume the issues would otherwise have been fatal. There were few natural proofs, however, in this relation, and he thought the case he had recorded would be interesting on that account. The child of Mr. F., of Buffalo, while jumping a rope, in some way had injured the walls of the audomen. There were no external evidences. The child complained of pain and suffered from tympanitic distension, vomiting and purging. In thirty-six hours afterward peritonitis was evident. The child, seven years old, was not very strong, and the history of the family and of the parents was certainly scrofulous or tubercular. The child was very pale, and the appearances indicated involvement of the omentum and abdominal veins. Day after day the acute symptoms diminished and diarrhœa had ceased, but the immense distension was most troublesome, rendering breathing exceedingly difficult. On the tenth day there was evident fluctuation. The treatment had been by large poultices and opium. It had been with difficulty that the poultices were borne and applied, as the little one's legs were drawn up. On the twelfth day the propriety of opening the abdomen was suggested to the family as the only way to save the childs life. The writer candidly admitted that he had not urged this very strongly, as he thought the patient likely to die upon the table. On the morning of the fourteenth day he had been afraid the little patient would not live through the day. In the evening he was summoned, the message telling him she was dying. On reaching the house he found to his surprise that nature had produced the surgical operation. The umbilicus had given way and a gallon of pus had been discharged. A bandage was applied, lactophosphate of calcium. bark, and so on, was ordered, and, to make a long story short, an excellent recovery was made, the patient enjoying better health than before the illness. Could there be plainer proof of the propriety of doing a laparotomy under such circumstances? Nature here had indicated what ought to be done by the surgeon's knife, and probably had done the work better.

Dr. Traux, of New York county, said that several cases of suppurative peritonistis had come under his observation in the Harlem Hospital. About six months ago a patient had been admitted to his ward. On examination, he had found the man had peritonitis, and was in a state of collapse. He was apparently a strong, vigorous young man, perhaps twenty years of age. He was too weak to give any history of his disease. Just at that time the visiting surgeon came to the hospital, and the speaker suggested laparotomy and washing out of the abdominal cavity; this was done under thorough antisepsis, but the man never recovered from the shock. A few days after, a young man had been admitted to the hospital with the same trouble and in the same condition; again the speaker advised laparotomy, and within an hour after her admission it was performed. Notwithstanding all possible care, she died. Some few weeks after, a man thirty years of age was admitted suffering from peritonitis; he had been sick for several days and was in a state of collapse. Laparotomy was advised. The abdomen was opened and the cavity washed out and the man seemed to revive, and for a few hours hopes were entertained that he would recover; but the next day, about twenty-four hours after the operation, he grew very weak, and, in spite of stimulants, died. This had been the speaker's experience. He admitted that they were all unfavorable cases of operation. He believed that many of these patients could be saved if permission could be obtained to operate when they were strong enough to stand the shock. He had during the last few years had a great many cases of peritonitis, and was bound to confess that uniformly they had turned out unfavorably. Comparatively few of the patients had recovered. He looked upon peritonitis now (meaning general peritonitis) as almost certain death. He had made autopsies in many cases, and found the abdomen filled with pus and in as deplorable a condition as could be well imagined.

A member suggested that Dr. Cronyn's case seemed more like a supra-peritoneal abscess.

The President said he thought it well settled that cases of supra peritoneal abscesses should be opened above Poupart's ligament.

Circumscribed abscesses, which had been common when he had begun practice, were now hardly known. He had cut down through the abdominal walls, found the sac, stitched it to the sides of the wound, and stuffed the cavity with oakum. In these cases of circumscribed abscesses the prognosis was favorable if large incisions were made, the cavity being well washed out and free drainage secured. The washing out of the abdominal cavity in cases of general peritonitis had failed in his own practice, and he would like to know what had been the experience of others in this respect. Replying to a question as to what formed tne intra-abdominal wall of these abscesses, he said he thought it was probably the matting together of the intestines.

Dr. T. H. Manley, of New York, said that he had never seen a patient recover whose peritonæum had been opened for general suppurative peritonitis. He had been consulted about one case. It had been decided not to let the patient die without giving him the benefit of so harmless an expedient. So he opened down in the direction of Poupart's ligament on the right side. Pus spurted out in large quantities, serous and grumous fluid, of which as much as a quart was removed. They had just commenced operations on the abdominal cavity when the child died on the table.

Dr. Cronyn said that the gentleman who had hinted that the case he had cited was perhaps only a supra-peritoneal abscess must imagine that he (Dr. Cronyn) did not know anything about surgery. He very rarely allowed himself to be led into expressions of opinion until he had well weighed the value of his premises. He explained that there had been evident fluctuations on the twelfth day, and this fluctuation had not been confined to two or three or four inches, but had involved the entire abdomen. As to the propriety of opening the abdominal cavity for peritonitis, he merely thought he would give an instance where nature had opened it.—*N. Y. Med. Journal.*

RELIEF OF STRANGURY.—Dr. Luton, of Rheims, having highly recommended tincture of ergot internally for the immediate relief of strangury, we were recently induced to try a hypodermic injection of ergotin for the same purpose, inserting it in the fossa just behind the great trochanter. The results were all that could be desired. The patient had had a hypodermic injection of morphine about an hour previously, and was considerably under its influence when we were applied to for relief.—*National Druggist.*

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THE SURGICAL TREATMENT OF ERYSIPELAS IN CHILDREN.

To open the inflamed skin in erysipelas by means of numerous small incisions made all over the diseased surface, and deep enough to draw blood, has been practiced for sometime, and not without success, provided antiseptic lotions (5 per cent. solutions of carbolic acid, or sublimate, 1 to 2000) were frequently poured on the dressing. Hypodermatic injections of a 2 per cent. solution of carbolic acid into the healthy skin surrounding the inflamed part have also been in use with varying success. The object in both methods was to bring Fehleisen's coccus of erysipelas, wandering in and along the lymphatics, in direct contact with germicidal fluids. The idea was correct, but its execution deficient in both methods. The incisions in the inflamed cutis closed up too rapidly to admit sufficient antiseptic fluid into its lower layers, and the fluid, brought into the healthy skin bordering on the erysipelas by the hypodermatic needle, found its way too rapidly into the circulation, thus doing no good locally, but often harm constitutionally.

Kraske's method was the first step in the right direction. He made regular incisions on the border of the erysipelas, extending into the healthy skin, and, by crossing these diagonally with others, the incised surface (diseased and healthy) presented an appearance not unlike a rail fence. The object here was to give a good chance to the cocci to get to the surface, and the antiseptic fluid to get to the cocci in the lower layers of the skin, at the same time disinfecting the healthy ground most likely to be invaded next by these germs. To this end the dressing was constantly moistened for the next few days. The results of this method were excellent.

Kiedel and Lauenstein (*Deutsch. med. Woch.*, March 14, 1889) proposed to improve Kraske's method by locating this fence of incisions entirely in the healthy tissue, about one or two inches away from the border of the erysipelas. This was to avoid possible infection of yet aseptic tissue, and this modification has given better results than any other method as yet practiced. The patients were usually put under an anæsthetic, and the whole operation was performed strictly according to the rules of antiseptic surgery.

In three cases of genuine erysipelas in children I have been able to employ this method, and in each case with such success that I may be pardoned for relating them in detail :

Girl, five years old, in private practice. Child had an eruption (varicella) ; had scratched its legs, causing open sores, and in one of these on the left calf erysipelatous inflammation was set up, beginning with a severe chill and nausea, continuing with high temperature (104° to 105° F.) and other signs of severe illness, and spreading rapidly downward and upward. I saw the child eighteen hours after the chill, and, recognizing its cause immediately, proposed the Riedel-Kraske method. This was flatly refused, because of the anæsthetic. Next day I brought a new vaccination lancet with me, and proposed to make the bloody fence with the little harrow attached to it and without the anæsthetic. This was consented to. The erysipelas had meanwhile spread upward to about an inch above the knee and downward to the ankle-joint. I decided to make a fence only around the thigh. After carefully cleansing the whole thigh with soap, water, ether and a 5 per cent. solution of carbolic acid, and covering the erysipelatous region with a carbolized towel, I firmly grasped the leg, and with long strokes of the harrow managed to open the skin around the thigh to the width of about an inch, and about an inch and a half away from the erysipelas. The longitudinal scratches (which were all deep enough to draw blood) were carefully but quickly crossed diagonally with manifold strokes of the harrow, so as to be sure that all of the surface operated upon was opened. A solution of corrosive sublimate (1 to 2000) was then rubbed into the wound, and a layer of absorbent cotton applied and fastened with gauze bandages. This dressing was moistened freely with the same solution every fifteen minutes.

The whole operation lasted no more than two minutes. The child's temperature at the time was 105° F., it had vomited all food for two days, and had been awake and delirious most of the previous night. The "fence" was made at 11 p. m. I did not see the child until the next day, when I found it sitting up in bed smiling, with a temperature of 100-5° in the rectum, due to the erysipelatous infiltration remaining in the limb below the "fence." The erysipelas had evidently reached the wounded ring, for on the lower border of the dressing the skin disappeared under it in a red and swollen condition, with a number of blisters spread over it, while on the other side it was as white and cool as could be, and it remained so until seven days later, when I removed the dressing. The temperature never rose again, the appetite returned, the child had slept well, and the subsiding of the severe symptoms had set in about six hours after the little operation.

But I found another patient on that day also sick with tho same complaint. The younger sister of the first patient, a very nervous, somewhat anæmic child, three years and a half of age, had been attaked the evening before with erysipelas of the right leg, beginning also at a scratch. As the parents consented immediately to the treatment, I was able to make the bloody ring just below the knee, and to thus stay the advance of the erysipelas in that direction. The temperature of the child fell from 104–5° to 101° F. within four hours, the erysipelas traveled down to the toe-nails, but never crossed our fence, the child meanwhile feeling perfectly well.

The third case was that of a baby but thirteen months old. I first saw the child at the children's department of the German Dispensary, on September 10th, when it was brought there for a severe attack of cholora-infantum. As it was collapsed, I washed out its stomach. This had the effect of checking the vomiting and of virtually curing the case. But two days later erysipelas began just above the knee, showing great tendency to spread rapidly upward, thus threatening the child's life. I resolved to operate the next day, in spite of the child's weak condition. When I did make the fence the child's condition appeared almost hopeless, the temperature registering 105–5° F., and the strength of the baby being almost exhausted. As the inflammation had spread anteriorly nearly to Poupart's ligament, I had to make the ring just below it, coming up from behind half way over the buttock. The mother being a Bohemian and quite unable to understand me, I had to make myself intelligible more by signs than by words, and yet our combined efforts resulted in a complete success, for the next day the baby's temperature was normal, and the child made a speedy recovery.

I had the satisfaction of being enabled to present the three children to my class at the New York Polyclinic, and there removed the dressings for the first time, showing exactly the line of demarkation and its remarkable action. I am positive that this method will check and cure every case of erysipelas if employed in time. My three cases demonstrate that my modification of operating with the vaccination-harrow and without an anæsthetic can be easily made use of in children, its advantage being that parents will more readily consent to this treatment.—*A. Siebert, M.D.*, *in N. Y. Medical Journal.*

WASHING OUT THE ABDOMINAL CAVITY IN PERITONITIS.

In a case recorded in this issue of the JOURNAL the through drainage of the abdominal cavity is beautifully exemplified, holding out, in a practical way, encouragement in all cases of abdominal abscess or general peritonitis. A word of caution, though, is needed. Very few cases could be safely left as long as the one reported by Dr. Bellamy before operative interference is resorted to. It would be rare, indeed, to find another example of a spontaneous pointing for drainage in the perineum, however much such a fortunate symptom might be desired to simplify the ultimate proceedings. One or two cases recently occurring under the eye of the writer show that simply washing out the cavity through a canula, with carbolized water, and leaving the tube in for subsequent washings, is safe practice, and saved the life of a patient in imminent peril from general peritonitis.

In another case of perityphlitis, with general peritonitis, and perforation of the bowel, the sticthing of the bowel and thorough washing of the cavity discharged a lot of stercoraceous pus, and so far removed the existing evil that the patient in a few hours afterwards had an evacution of the bowels, the first time in many days, although he succumbed to the disease in less than twenty-four hours. Evidently laparotomy was delayed too long here, although the surgeons with rare good fortune opened the cavity immediately over the perforation.

It is safe practice in surgery to aspirate the abdomen in all cases where the symptoms point to accumulation of pus, the diagnosis completed, a laparotomy by antiseptic rule can be undertaken with as much confidence and promise of success, as formerly it was dangerous and unjustifiable. This branch of surgery deserves to be more generally cultivated, and the steps of such operations are now clearly enough defined to justify any well well-read physician in applying them, without necessarily having recourse to a specialist.

MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION IN BROOKLYN—SHADE TREES ON THE HEALTH—CLOTHING IN ITS RELATION TO HYGIENE—INFANT MORTALITY—THE QUARANTINE OF NEW YORK HARBOR—PREVENTION OF TUBERCULOSIS—HOAGLAND LABORATORY.

This is the first meeting of the A. P. H. A. in an eastern city for several years past, and it was a wise selection. Dr. J. H. Raymond, of Brooklyn, carried the invitation to the Association from Milwaukee, and from that day there was no doubt that his interest in the matter would move it on to a successful issue, which proved to be true.

The first day the meeting was rather thin, and it looked unpromising, but the next day it swelled to large numbers. It was plainly evident from the first that holding a meeting in Brooklyn was no assurance of engaging the interest of New York sanitarians; we saw no New York faces in the meeting, and saw on the list of new members only a few names.

The first literary contribution of the day was one on "The Overshading of Our Homes," from Dr. W. T. Parker, of Newport, R. I. There was some good basis for the idea advanced that overshading is generally unhealthful, but the discussion revealed the fact that no rule could be adopted, and no sweeping generalization be indulged in, in condemnation of shade-trees. There were climates, conditions of soil, and other combinations, which would enter into the consideration of the unhealthfulness of continuous dense shading. For the North and South, for instance, no rule could be applied which would answer both localities. The weight of the best thought seemed to be that each condition must be studied on its own merits. The subject was too large for the short time allotted to it, and should be more thoroughly studied.

Dr. James F. Hibbard's paper on "Clothing in Relation to Hygiene," was a well matured discussion, emphasizing what this writer has often believed, that people in cold climates dress too warmly, and keep their houses entirely too warm.

The opening paragraph of his paper gives the key to his observations:

"A number of years' observations as a general medical practitioner has led me to the conclusion that a large percentage of the people who have been the subjects of my observation dress too warmly, thereby perverting the normal functions of the skin, lessening its power of resisting the pathogenic influences of meteorological changes, and not infrequently being the initial link in the chain of morbid processes that lead to serious constitutional disturbances."

* * * * * * * *

"The qualities of appropriate clothing are chiefly that it should protect from radiant solar heat in summer without arresting the secreted heat from the body of the wearer or suppressing appropriate ventilation and in winter prevent the unnecessary loss of heat from the body by radiation, conduction or convection, without mischievous impediment to the circulation of the air about the skin, and without cutaneous irritation.

"Giving attention to winter clothing, we must bear in mind that it accomplishes our protection against low temperatures solely by preventing the too rapid waste of caloric, the product of our vital activities, and we must realize that the circulation of air under this protecting dress shall be sufficient to dilute and disperse the carbon dioxide and the organic waste secreted by the skin as the correlate of the lungs and the aqueous fluid normally secreted under the name of insensible perspiration."

* * * * * * * *

Dr. Hibbard has made the right use of his facts to arrest the attention of thinking people toward a reformation in clothing. No wonder that children are puny who are coddled in luxurious houses with a living temperature of 72 to 75 F. day and night, and when taken into the fresh air they are protected against it as though it were some harmful thing; better a North Carolina shanty with a big wood fire and the doors open.

The afternoon session was devoted to the discussion of infant mortality, founded upon papers by Dr. Jerome Walker—"The Causes and Prevention of Infant Mortality," and Mr. A. F. White's paper on "The Relation of the Dwellings of the Poor to Infant Mortality." The great problems involved in such questions as applicable to the larger cities, are exceedingly difficult, but it is apparent that much study is being done in this direction. In the course of discussion Dr. Maxwell, of St. Augustine, Fla., said that cholera-infantum was very uncommon in the South, and experience in practice in Delaware and Florida convinced him that it was not excesssive heat which was the great causative factor in this disease.

The Tuesday night reception at the Academy of Music was a grand affair. The reception addresses, by Dr. J. H. Raymond, Mayor Chapin and Dr. Hutchins, were in good spirit and were well in keeping with the aims and objects of the Association, breathing that hospitality which is seldom known to great cities. Dr. Hosmer A. Johnson, of Chicago, then delivered the presidential address. Dr. Johnson was a member of the National Board of Health, and has been more or less identified with public health movements. He was a fair presiding officer, but lacking experience in keeping such a large body at work strictly in proper channels.

The quarantine of New York harbor is one in which we people of the South Atlantic States have more interest than in that of New Orleans, and the Southern delegation was glad to get such an opportunity to visit it. Through the hospitality of citizens of Brooklyn we were enabled to enjoy an excursion on a large steamer, the Laura M. Starin. There was a very large party, but the boat was not overcrowded. An ample and tasteful collation was served during the sail, which we were allowed to enjoy leisurely, and according to the growing and healthy custom all over the country, it was characterized by the omission of liquors. Claret punch was served when called for, but few indulged.

The State of New York has appropriated large sums, at least, for its quarantine station. They are erecting large buildings for housing the sick and disinfecting bedding and clothing; but no adequate means are being prepared for putting a vessel in good cleanly and aseptic condition. A vessel prepared after the New York plan would not be allowed free protique in Charleston or Wilmington. Dr. Horlbeck, of Charleston, and Dr. Wilkinson, of New Orleans, were present at the inspection, and from the data they furnished we are satisfied that New Orleans and Charleston (which has recently adopted the outfit of the former city) have both far better quarantine than New York. It seems a little surprising that New York would go to such great expense with untried appliances, when she had before her well tested methods and machinery, suitable for a quarantine in the tropics, and of course equally so for one in the higher latitude of New York.

Thursday afternoon the Hoagland Laboratory was opened to the Association, and many members assembled there in advance of the meeting which was to be held in the lecture-room, to inspect the appliances. This building is the personal gift of a Brooklyn physician whose name it bears, and all its expenses are provided for by him. It is admirable in all of its appointments, and must serve as a great stimulus to the study of biology and pathology. It is a far better lighted building than the one devoted to similar purposes at the Johns Hopkins. Dr. Kemp, formerly of Johns Hopkins, is in charge, and Dr. Sternberg has also here his headquarters.

The all-absorbing question to all-the-world is the prevention of phthisis and the discussion of this subject was ample, and the topic has hardly yet reached its culminating point. Its practical bearings upon the management of the sick with consumption may lead to panic, but correctly instructed nurses and friends will find hope in the prospect of destroying the causative elements of the disease among the well persons of the household, and so be induced to take pains in destroying the sputa of the sick. This present writer recollects the smile which a report of his caused before the Durham meeting of the North Carolina Medical Society. His statement that he believed that fowls that had gobbled the sputa of a phthisical patient sickened and died, greatly emaciated, dying, he believed, with tuberculosis, was looked upon as a doubtful theory. Not five years have elapsed and the affirmative evidence of the transmission of tuberculosis from animals to men and conversely, is incontrovertible.

Many thanks do we owe to Dr. Raymond for his leadership in this great meeting, and we were delighted to know that he had been chosen Second Vice President. His election, though, was distinctly upon the ground of his good work as a sanitarian. The choice for President fell upon Dr. Henry B. Baker, of Lansing, Mich., the distinguished Secretary of the Michigan Board of Health, and we are sorry he was not present to have received the congratulations of his numerous friends. Charleston was selected as the place of the next meeting, and, as one cannot help having a good time in Charleston, we hope that Dr. Horlbeck will select some time in November, that we may have the prettiest weather possible for the occasion.

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The Eighty-third annual session of the School of Medicine in the University of Maryland, will begin on 1st day of October, 1889 and will terminate about the last of March, 1890. During the session there is a vacation from December 25th to January 2d. Lectures introductory to the regular session will commence September 20th, 1889. The course of instruction consists of a full series of didactic lectures on each of the following subjects: Obstetrics, Practice of Medicine, Materia Medica and Therapeutics, Diseases of Women and Children, Diseases of the Eye and Ear, Physiology, Surgery, Anatomy, and Chemistry and Toxicology. The new lying-in Hospital is in full operation.

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CURRENT NOTES.

Caffeine is not identical with theine, but isomeric.—*Constantine Paul.*

Quack Advertisements in Religious Newspapers.—At the Centennial Geneaal Assembly of the Presbyterian Church, held in Philadelphia, the Committee on Bills and Overtures recommended the adoption of a resolution that the General Assembly, while disclaiming responsibility for, or authority over, religious journals not published under its direction, disapproves of "all those advertisements of patent medicine, dishonest in form, fraudulent in substance, or prejudicial to the refinement, modesty, and purity of the home life."—*Memphis Medical Monthly.*

Flushing the Peritoneum.—This practice, so useful in abdominal surgery, has become widely spread over the Continent of Europe. M. Polaillon pointed out last year that the practice involves danger of shock, and described a fatal case, and two that nearly ended fatally. Some mention was made of M. Polaillon's experience in the *Journal*, a few months since, under the heading of the present paragraph. Dr. Pierre Delbet has published an interesting series of researches in the *Annales de Gynécologie* for September without, unfortunately, making the slightest mention of the surgeons who introduced the practice. From experiments on the dead subject and on dogs, he has come to several conclusions. The liquid employed for flushing is diffused over the whole of the peritoneal cavity. Foreign bodies cannot be entirely displaced by flushing; hence, although septic material may be dislodged till but little remains, that little may do harm; so on that account, in Dr. Delbet's opinion, it is best to flush with an antiseptic solution after plain water has been employed. After flushing, a considerable amount of liquid remains behind, occupying the pelvis, iliac fossæ and flanks. Dr. Delbet comes to a remarkable conclusion respecting the temperature of the water. The temperature, within the limits of 18° to 50° C. (64.4° to 122° F.), has appreciable effect on the respiration or circulation, therefore, there is no danger that flushing can arrest the heart's action. Dr. Delbet admits, however, that flushing with water of low temperatare chills the intestine, and, therefore, increases shock. The water should be heated to 38° to 39° C. (100.4° to 102.2° F.) Dr. Delbet does not entirely agree with M. Polaillon's explanation of the fatal case recorded by the latter observer. The carbolic acid or the anæsthetic may have had the principal share in the fatal result. The alleged hæmostatic action of flushing with very hot water appears doubtful to Dr. Delbet. During the first minutes of the flushing process a great quantity of the water is aborbed. When salt in the proportion of seven parts to one thousand of water is employed, the process becomes "a true indirect transfusion." The paper concludes with the discussion of an interesting fact in relation to absorption of poisons. After flushing the peritoneum for ten minutes with the saline solution, a fluid containing a poisonous element may be diffused over the peritoneum with impunity, provided that it be followed by a third flushing with the saline water. In his experiments Dr. Delbet used sulphate of strychnine, but these researches are meant to imply that washings with relatively strong solutions of sublimate and carbolic acid may be advantageously used in flushing during an abdominal section, provided that the indicated precaution be not overlooked.—*British Medical Journal.*

TETANY AND A NEW THEORY OF ITS PATHOLOGY.—In this paper the author, Dr. John T. Carpenter, of Pottsville, Pa., said that tetany might best be defined as a nervous disorder, accompanied by spasms of an intermittent character, extending from the extremities to the muscles of the jaws. These spasms might, during the intermissions, be reproduced at will by compressing the affected parts, either in the direction of the principal nerve trunks or over their blood-vessels, thus impeding the circulation. But this definition failed to reach the underlying pathology of the disorder; indeed, later observers had taken the ground that there is no definite lesion connected with the disease. This might be true—no definite lesion, perhaps, but still a definite cause. Was tetany a special disease, or the sequel of precedent phenomena? Was it an independent morbid entity, or the consequence of some other diseased condition of the system? These questions might be answered by an analysis of the conditions and circumstances under which tetany had been observed, which had been many and varied. Diarrhœa had frequently been a condition; so also had constipation. The post-puerperal state and lactation in women had been frequently noted. But, again, children and adult males were also subjects of tetany. Typhoid fever and phthisis had furnished a number of cases. So had exudative disease of the pharynx. Could we make any generalization among all these varying conditions? Could we make clearly evident any fundamental peculiarity among all these different morbid states? He believed this could be done. Such a story had led him to the conclusion that the well-known general cocdition of systemic infection called sepsis might be safely asserted and surely proved to underlie or accompany every antecedent disease that had been observed to be connected with tetany. From these deductions might be formulated the axiom that tetany, as a general rule, follows upon such diseased conditions of the system as are observed to produce morbid discharges from mucous surfaces whose absorption is known to cause symptoms in remote parts of the body due to the circulation of septic poison. Taking first the post-puerperal state, modern obstetric physicians believed that sepsis was usual at this period, and to its influence they justly ascribed the so-called "milk-fever," the puerperal inflammations, and many other of the disorders of puerperal womon. If, then, a septic condition could exist sufficient to cause these disorders, it was not difficult to see that such might readily account for the appearance of tetany in the post-puerperal. He then went on to consider seriatim, in this connection, diarrhœa, constipotion and phhthisis, his summing up being that, in all recorded observations of morbid processes antecedent to tetany, a probable sepsis might be inferred; and no other cause, common to them all, has so far been discovered. To this fundamental peculiarity, therefore, must be assigned the causation of the final result, as a result consequent thereupon.—*N. Y. Medical Journal.*

The Johns Hopkins Hospital Bulletin will be issued monthly, to be known as the Hospital Bulletin. It will contain announcements of courses of lectures, programmes of clinical and pathological study, details of hospital and dispensary practice, abstracts of papers read and other proceedings of the Medical Society of the Hospital, reports of lectures, and all other matters of general interest in connection with the work of the Hospital. Nine numbers will be issued annually. The first number will appear in November, 1889. The subscription price will be one dollar per year. Subscriptions may be sent to The Publication Agency of the Johns Hopkins University, Baltimore, Md.

A NOVEL VERMIFUGE.—While the following advice seems to us as apt to kill the host as the guest, we quote it for the benefit of our readers from the *Journal of Pharmacy* for September: A whole cocoanut, grated fine, mixed with milk, and taken on an empty stomach on rising, is fully as reliable a tæniafuge as male fern, kousso, or pomegranate, etc.; it is far more agreeable to the taste. No after-treatment is necessary, as a single dose usually is all-sufficient.—*Maryland Medical Journal.*

ANÆSTHESIA.—Dr. George T. Shrady, after a study of the subject of anæsthesia, has arrived at the following conclusions:

1. In commencing the administration of ether the gradual method is to be preferred.
2. Its employment allows the lungs to empty themselves of residual air, prevents coughing and struggling, and places the organs in the best possible condition to receive and rapidly utilize the ether vapor.
3. After the stage of primary anæsthesia is reached, the more pure ether vapor the patient breathes the better.
4. The shorter the time of anæsthesia, and the smaller the amount of ether used, the less likely are the unpleasant sequelæ to occur.
5. The more evenly it is administered the less shock to the patient
6. Anæsthesia should be entrusted to experienced administrators only.
7. Many of the fashionable efforts to resuscitate patients are not only useless, but harmful.
8. The minimum amount of force should be employed to restrain the muscular movements of the patient.
9. Mixed narcosis is often advisable for prolonged operations.
10. The utility of the galvanic battery, in threatened death, is yet to be proven.
11. The most trustworthy means of resuscitating desperate cases are artificial respiration, hypodermic stimulation, inhalation of nitrite of amyl, and inversion of the body.—*Brooklyn Medical Journal.*

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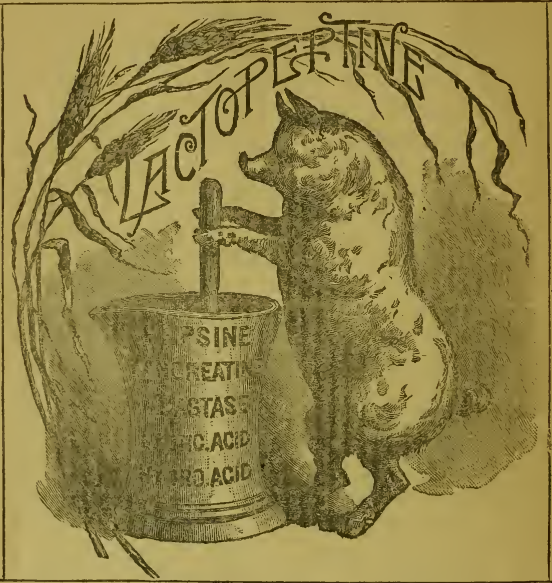

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CONTENTS:

ORIGINAL COMMUNICATIONS:

Clinical Lecture at Charleston Hospital—Amputations from a Pathological and Medico-Legal Standpoint, by Prof. Middleton Michel, M. D 321
A Case of Purulent Peritonitis—Recovery Following Conservative Treatment, by R. D. Jewett, M. D 326
The Importance of Examining the Ears in Troublesome Coughs, by Alfred C. Palmer, M. D 330
Report of Chairman of Section on Forensic Medicine—Dipsomania, by J. T. Nicholson, M. D 333

SELECTED PAPERS:

Antipyretics, by Edward N. Whittier, M. D 336

EDITORIAL:

The Examination of Drinking Water for Impurities by Washing with Ether 358
Senn's Splint for Fractures of the Neck of Femur by immediate Reduction and Permanent Fixation 360
Antipyrin in Diabetes 363

REVIEWS AND BOOK NOTICES:

The Principles and Practice of Surgery, by John Ashhurst, Jr., M. D 364
A Text Book of Animal Pysiology, by Wesley Mills, M. D 364
Ophthalmology and Ophthalmoscopy for Practitioners and Students of Medicine, by Dr. Herman Schmidt Rimpler 366
A Reference Hand Book of the Medical Sciences, Edited by Alfred H. Buck, M. D 368
A Clinical Atlas of Venereal and Skin Diseases, by Robert W. Taylor, A. M., M. D 368
Wood's Medical and Surgical Monographs 369
The American Armamentarium Chirurgicum 370
The Medical News Visiting List; The Physician's Visiting List 371
A New Treatment of Sterility 371

RRESPONDENCE:

Strangulated Hernia Reduced by Aspiration and Taxis, by R. J. Noble, M. D 372

URRENT LITERATURE:

The Advantages and Disadvantages of Sulphonal 373
Necessity of caution in Prescribing for Unmarried Pregnant Women 374
A Pervious Urachus 375
Abstract of an Address by Prof. F. Peyre Porcher, M. D., on the Medical Staff of the Confederate Army and Navy 376
The North Carolina Journal for 1890 .... See Advertisement.
Portrait of Dr. Cornelius R. Agnew 381

URRENT NOTES:

Death from Glanders; Pilocarpin in Gall-Stones; To our Readers; Chromic Acid Poisonous as a Caustic 382
Dr. J. C. Gidney; Bromidia; the late Dr. Ricord; Antifebrin in Quinsy 383
READING NOTICES 384

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Number 5. Wilmington, November, 1889. Vol. 24.

ORIGINAL COMMUNICATIONS.

CLINICAL LECTURE AT THE CITY HOSPITAL—AMPUTATIONS FROM A PATHOLOGICAL AND MEDICO-LEGAL STANDPOINT.

By Prof. Middleton Michel, M.D., Charleston, S. C. (Reported by Dr. R. P. Izlar, House Surgeon.)

The many operations you have witnessed during the past four weeks have all been the results of railroad, street-car and phosphate-work accidents.

Circumstances associated with some of these occurrences, and more particularly the unwillingness expressed by one of these patients to submit to the removal of the limb when the operation was at first proposed, suggest to my mind the propriety of dwelling this morning upon certain general considerations respecting amputations from both a pathological and medico-legal standpoint.

Without any studied connection, however, in the presentation of my desultory and unpremeditated reflections, I would wish at the very onset to accentuate a fact accepted by all true surgeons, which I hope may be a safeguard to the young aspirant who so soon catches the praiseworthy enthusiasm of glorious renown, and resolves, catlin in hand, to cut his way fearlessly into public notoriety.

Now, this fact is that an amputation is the most uncommendable of surgical performances, for it exhibits the impotency, not the power, of our art. To mutilate a limb, destroy its function and entail a permanent deformity, should be the last resort of the surgeon who barters away the entire part only to save life. It is conservative, not demolitionary surgery, that constitutes the highest expression of our skill. On this line of duty, with something more than customary reliance upon the *vis medicatrix naturæ*, there are some of us, perhaps, who can congratulate our patients as we can ourselves on the preservation and usefulness of limbs which had been unconditionally condemned and adjudged to be sacrificed.

In the presence, therefore, of the terrible injuries brought recently before you, involving sometimes both limbs, you can readily imagine the surgeon's anxiety, who feels the responsibility of his duty, and upon whose wisdom, knowledge, judgment, not to speak of humanity, so much depends.

Now, pretermitting all references to the various diseases necessi tating amputations, and in view only of such mechanical accidents as require immediate surgical interference, two questions arise that we may profitably discuss :

1. When is it justifiable to amputate a limb ?
2. What conditions determine the point of election ?

The irreparable condition of a part or limb mangled by machinery, such as you have several times witnessed, permits of no variance of opinion between surgeon and patient and relatives as to the necessity of an immediate amputation, but such is not always the case On the contrary, it may sometimes happen that no easily recognized injury has been sustained and the patient suffers so little pain, that he and his friends protest at once against the preposterousnes of any operation at all. You doubtless recall the case of the little negro Fletcher—a railroad accident—whose leg presented just such a natural appearance; there was not a contusion, not even an abrasion, no bone was fractured; save partial immobility and insensitiveness of all parts below the knee, a considerable distension of the calf of the legs, but, above all, an icy coldness of the entire limb;

there was nothing to the eye of the uninitiated to justify an operation of this magnitude. I called attention, however, to the irreparable injury that some large artery—the posterior tibial or peroneal—had doubtless sustained, to the possible destruction of deeper-seated structures and to the inordinate quantity of blood pent-up in the part, all of which have already, but a few hours since the accident, brought about apparently an incipient gangrene of the limb. In less than a few more hours those interested in the child realized the importance of the operation, and the dissection of the leg revealed the accuracy of the diagnosis.

The decision of this first question is not always readily arrived at. The surgeon should pass in review the condition of each component structure of the limb, the extent and kind of injury it has sustained, balance this with the recuperative power exhibited by the patient for the work of repair, and estimate the probable time which this process will involve.

Let me here say that no amount of laceration of the soft parts alone, unless they be so violently contused as to unavoidably sphacelate, warrants an amputation, particularly if they promise to partly unite on being brought together and to lessen the granulating area. The muscles may be lacerated and cut to the very bone, and unless pulpified and in shreds, however ghastly the wound, if their edges be pared and placed in apposition, they may unite by fibrous tissue, though new muscular tissue will never be reformed. Again, the bones may be fractured, even comminuted by shot or shell, and experience has shown me that if the fragments are still covered by periosteum, perhaps held together in part, these fragments placed in axial relation to the limb will in time unite with little displacement, undisturbed by muscles themselves undergoing repair. But above all things in importance, we should look to the vessels and nerves of the part, for where these are compromitted in the injury, the limb will most likely have to be sacrificed, as the very channels of nutritive support and repair have been irreparably destroyed. Now, after all these considerations, should a doubt exist in your mind as to wholly condemning the limb, then give the benefit of the doubt to the patient by advising with some colleague of equal experience, who may vindicate your decision; and even then, under no circumstances perform the operation until you have the satisfied consent of patient and friends, for reasons to be presently stated.

With regard to the point of election for the operation in such cases as we are considering, it should be borne in mind as a cardinal principle *not to cut too near to injured parts.* However correct and important the rule: farther from the body the safer the amputation, yet in cutting near the mangled part we enter a region of more or less contused tissues, ill adapted to form proper flaps, as they will surely slough, leave tissue and bones exposed, and force a resort to another operation to remedy the errors of the first. Witness the case of S. P. in Ward C., upon whose foot a Chopart was performed so nearthe damaged tissues in January last, that soon after entering the hospital a Syme's was again performed in hope of saving as much of the foot as possible, when sloughing again takes place followed by exposure of both bones of the leg. On assuming my term of service I find this patient requiring an amputation at the lower third, which should have been the primary procedure, for it would have healed at once in so healthy a patient as he has proved to be, and he would have been discharged cured in three weeks, whereas he has been nearly nine months in this hospital.

My own practice has always been to select a point which is reasonably above suspicion, even if a little more should be thus sacrificed than might otherwise have actually proved successful, for it is difficult sometimes to judge to what exact extent the tissues have suffered. This was illustrated in one of my Lenoir operations quite above the injured foot; you remember a projecting tendon seemed to require trimming, and as I seized it, to our astonishment, the peroneus longus was drawn out of the leg; the force which shattered the foot had turned this muscle from its high attachment to the fibula; this occurrence did not interfere, however, with the prompt healing of the wound, and is mentioned only to show at what a remote distance above the injury other parts may be sometimes implicated. I do not mean to imply that you should not amputate as far from the body as practicable, for, in some of these regions, you have the well devised methods of Lenoir, Guyon, Roux, Pirogoff, Syme and others, and statistics show better and less fatal results than at the upper third of leg; even at the lower third the mortality is about one in seven, which is nearly one-half of what used to be met with at the upper third. You must remember, however, that at ankle-joint the operation is three per cent. more liable to be followed by reamputation.

Now, my endeavor has been to show you that an amputation is a discreditable operation at best, and the last resort of surgery; but it is also a very fatal one when associated with shock; statistics show that, taken collectively, one-half die; the mortality is less when the operation is done for disease.

From what has been said we should draw the inference that, all things being equal, the hospital presents the fewest operations of this kind, and the lowest mortality among these does the best surgical work. In this connection, we may congratulate ourselves without any imputation of personal pretensions, in presenting the year's statistics ending on the 1st of October, as the work in this hospital is the joint labor of my colleagues of the Faculty and of myself. It appears from the year's resumé which one of you have furnished me, that there have been but 36 amputations in all, including both upper and lower extremities, with only 8 deaths, which is little more than 20 per cent. This success is due, in a great measure, to the fact that most of these have been primary, and not secondary, operations.

Finally, there is another phase of this subject which should be referred to, since in the syncretism of the two great professions—Medicine and Law—we find it scarcely anywhere considered. I allude to the medico-legal subject of Malpractice.

Amputations performed for injuries sustained in the service of, or in connection with, public corporations, such as railroads and phosphate works, etc., are the class of cases, of all others, that are most likely to become the subject of litigation, and are carried into the courts for adjudication. It is then, in a suit for damages, that the surgeon may have to defend his treatment in an action for malpractice, have the mortification to listen dismayed to the malevolent criticism of those who think proper to sit in judgment upon him. Did time permit I could recount many illustrations of this, for there unhappily exists a painful record upon the docket of cases in which action has been brought against the physician to mulct him for damages upon the charge of want of proper skill, or even for errors of judgment, as, for example, in not having amputated high enough when another operation had to be performed, though no ignorance nor unskillfulness was charged. It is well to learn, also, that nine times in ten these malpractice suits relate to amputations, dislocations and fractures, with damages assessed at $2,025, as in the case of Howard vs. Grover, and but recently again at $8,000 in the famous Graves case in California, which at the first trial resulted in a verdict against the defendant, though a third trial ended in the acquital of Dr. Graves through the able defense of H. McAllister, Esq., and E. R. Taylor, himself a graduate of medicine, who has chosen the law as his profession. To their untiring work the defendant, gladdened by the approval of friends, received ultimately the encouraging congratulations of the medical profession generally.

For these reasons I urge you once more: Never perform the operation until you have the satisfied consent of those concerned.

Exercise the severest judgment as to the absolute necessity for such interference.

Exhibit the utmost practical skill in its performance, or else do not undertake it.

Finally, be sure that you adopt the most approved method of those abreast with the times and aptly fitted to counsel and decide in such matters.

A CASE OF PURULENT PERITONITIS—RECOVERY FOLLOWING CONSERVATIVE TREATMENT.

By R. D. Jewett, M.D., Wilmington, N. C.

On September 13th, 1889, was called in to see Henry McN., a negro boy abo eventeen years old. The following is his previous history, as far as c n be learned:

On the 26th of August, eighteen days prior to my being called in, the boy went on an excursion to Goldsboro. While on the cars he was attacked by a severe chill, followed by high fever. On reaching home he sought his bed. There were two large kernels in his right groin, with some pain in the same region. He was told by some of his friends to "mark" them with charcoal and spirits of turpentine, which he did with the satisfaction of having the kernels disappear. He had received no injury while on his trip—no blow, fall or jar of any kind. After five or six days* of fever and pain, he noticed a swelling beginning to appear just below the umbilicus, and called in one of the colored brethren. The doctor prescribed, and told him that he had "broken his apron string." He promised to return, but had not yet put in an appearance.

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*He was not positive as to the length of time from the commencement of his sickness till he first noticed the swelling.

For a week the patient's bowels remained bound up, and were then moved by a dose of salts. After this relief they remained quiet for eight days, when they responded to a dose of pills. During all this time the boy had been suffering intense pain; so much so that he disturbed the neighbors with his screams. He had no chills after the one he had on the train, but had fever all the time.

When I first saw the patient he was groaning and writhing with pain. On examining his abdomen found an elongated tumor, which was quite firm and extended from the umbilicus to the symphysis, and occupying about the middle third of the abdomen. Near the upper end of the tumor there was a spot about an inch and a half in diameter that had a fluctuating feel. On percussion the note was almost flat, the slightest tap giving rise to the most exquisite pain. However, steady pressure, gradually increased, was well borne, the patient only complaining that it "felt sore."

What was the nature of the tumor, which, as before stated, the boy said began to form just below the navel and gradually increased till it reached the symphysis? His bowels had moved freely a day or two previous, and the tumor had not been changed by the copious action. On either side of the tumor the belly was soft and free from pain. I had him to empty his bladder in my presence, which he did with no inconvenience, passing about eight ounces of urine of normal appearance. Having seen an exploratory laparotomy performed a few days previous on a man whose belly presented a somewhat similar external appearance, I believed the condition of this case to be the same as was found at that operation, viz: that there had been a general peritonitis with extensive adhesions, and that the bowels had been drawn into a knot where the abdominal walls offered the least resistance.

A very gloomy prognosis was given the boy's relatives, the only hope being based on the fact that he had stood the ordeal for nearly three weeks, and was still alive, and, notwithstanding his pain and a temperature of 102 2 F., able to consume his quota of the daily rations: Sulphate of magnesium and morphia granules ($\frac{1}{4}$ gr. p. r. n.) were ordered.

The next day, in consultation with Dr. Thomas F. Wood, it was decided not to perform a laparotomy, the one above alluded to and its termination (the patient died the next morning) being still fresh in our minds. A hypodermic needle was inserted into the fluctuating area with a negative result; it may have been on account of the small size of the needle.

The patient remained in this condition about ten days, being kept comfortable by the morphia, and his bowels kept open by the salts, when he complained that his urine was very thick and gave rise to great pain in micturition. After a great deal of persuasion on my part and suffering on his, he passed a small amount of urine heavily loaded with pus. I concluded that pus had formed in the peritoneal cavity and was escaping through the bladder. I asked Dr. Wood to see the case again, and the next morning the hypodermic needle introduced into the fluctuating spot just below the umbilicus brought out a syringeful of pus. A teaspoonful of chloroform anæsthetized the patient sufficiently to permit the introduction of a straight trocar and cannula, when about an ounce and a half of pus was removed and the cavity washed out with hot carbolized water.

The next morning the temperature, which up to this time had been ranging from normal to 102°, was normal, and urine much clearer. An alkaline diuretic was given to increase the bulk of urine, and the pus sac was washed out twice daily with hot carbolized water. I say "pus sac," for it appeared to be only a small area where the presence of the pus prevented the adhesions which seemed to be present everywhere else.

After four or five days washing through a small gum-elastic catheter which had replaced the cannula, the water returned clear and the opening was covered by a pad of antiseptic gauze and left to heal. The tumor had changed its shape somewhat by this time, being now pyramidal, its apex at the umbilicus and its base extending entirely across the lower part of the belly. It was almost free from pain, was doughy, and could be indented by firm pressure. Ordered fluid extract of cascara as a laxative, and visited patient only once or twice a week.

On the 14th of October was met by the boy's aunt, who informed me that "that place has bustid agin," and on seeing him found pus again discharging from the cannula opening. I thought I might hasten the removal of the pyogenic material by the use of the peroxide of hydrogen, and to that end washed out the sac with a 25 p. c. solution, followed by the hot carbolized water. Although the discharge of pus was quite considerable, three washings with the peroxide was sufficient, for two days after this application the absorbent cotton which covered the opening was not stained in the least, nor could any discharge be caused by pressure. The wound was again left to heal, and the patient has not been seen since; but on inquiry as to his condition on November 2d, was told that he was pretty well and had gone to work on the Sound (sea-coast), eight miles from town. The doughy condition of his belly remains.

This case shows with what tenacity the negro clings to life, even under the most adverse conditions. It also shows what desperate efforts nature makes to overcome disease. This boy's trouble doubtless began in a typhlitis, so common now-a-days, or rather, probably, so frequently recognized as such. For three weeks, nearly, he lay there suffering the excruciating agony that an acute peritonitis must bring with it—suffering which would almost surely have consumed many times over the strength of the ordinary white man—without even losing his appetite.

For three weeks the case received absolutely no treatment, and that during the fourth was merely palliative. It was certainly not intended as curative, for the condition was considered as having gotten beyond relief. Then it was that nature performed her operation for getting rid of the pus, and she would probably have succeeded and effected a cure (even if at the cost of much time, suffering and a chronic cystitis) had she not been interrupted by the more comfortable and speedy process described in the body of this article.

THE IMPORTANCE OF EXAMINING THE EARS IN TROUBLESOME COUGHS.

By Alfred C. Palmer, Senior Surgeon Norfolk Eye, Ear and Throat Clinic.

(Read before the Medical Society of the State of North Carolina, at Elizabeth City, April 16, 1889.)

It is a thing so common to the majority of us that we do not stop to question why that, in cleansing our ears with feathers, bits of cotton on tooth-picks and the like, we feel a peculiar tickling in the larynx and an irresistible desire to cough. If we consider for a moment, we must come to the conclusion that when this sensation is produced there must exist some direct nervous communication between the two organs, and if you will bear in mind a few anatomical facts, to which I beg leave to refer you, you will see that there does exist this communication and in a most direct manner.

You are aware that the eighth pair of cranial nerves consists of three, viz: glosso-pharyngeal, pneumogastric and spinal accessory, and it is to a portion of the two first mentioned that I will briefly call attention.

The glosso-pharyngeal, grossly-speaking, arises by three or four filaments, closely connected together, from the upper part of the medulla oblongata immediately behind the olivary body. It passes outward across the flocculus and leaves the skull at the central part of the jugular foramen in front of the pneumogastric and spinal accessory. In passes through the jugular foramen the nerve presents in succession two gangliform enlargements, the jugular, the superior, and the petrous, the inferior and larger of two, involving the whole of the fibres of the nerve and forming its filamentary connections with other nerves at the base of the skull. The most important of these connections to us in tracing this communication is the one with the pneumogastric, to which we will call your attention later on. From the superior part of this, petrous ganglion, or ganglion of Anderson, you will find given off a small but important branch, which, in ascending, passes through a small bony canal in the petrous portion of the temporal bone in its lower surface, finding its way to the tympanic cavity through an aperture in its floor. This is known as the tympanic branch, or Jacobson's nerve; here it divides into three branches, forming the tympanic plexus, and one of its branches is disturbed through the mucous membrane of the tympanum and Eustachian tube.

Without finding it necessary to dilate upon the origin and intercranial portion of the pneumogastric you will remember it leaves the skull at the jugular foramen immediately behind the glosso-pharyngeal. A short distance lower and we come to an enlargement, which is the superior ganglion, and upon its superior surface what do we find? The important connection with the petrous ganglion of the glosso-pharyngeal by filaments given off and entering the petrous ganglion of the glosso-pharyngeal inferiorly, at a point about opposite to where the tympanic is given off superiorly. The connection is not universal, hence the absence of the influence in some cases. By following the course of the pneumogastric still further downwards we are brought in contact with the inferior ganglion, from the middle of which is given off the superior laryngeal, whose course and functions now claim our attention.

It descends by the side of the pharynx behind the internal carotid where it divides into two branches, the external and internal laryngeal, the internal passing through the opening in the thyrohyoid membrane, entering the larynx, supplying the mucous membrane, and is the nerve of sensation of that organ. Thus, since anatomically we have traced a direct connection between these two organs, the tympanum and larynx, first through Jacobson's nerve to the petrous ganglion of the glosso-pharyngeal through this and its connecting fibres where they exist, into the pneumogastric and its branch, the superior laryngeal, to the whole of the mucous membrane of the superior part of the larynx, it is reasonable to suppose that, should irritating influences exist in the tympanum, there must necessarily be some manifestation at the other end of the connection. This influence might not be evident were it not true that the superior laryngeal terminates in so sensitive a membrane, made so by its own presence; hence I make the statement that many of those troublesome, hacking coughs which we are so prone to attribute to reflex stomach troubles (dyspeptic coughs), sub-acute laryngitis, bad colds and the like, are directly due to a disturbance of one kind or another in the ears, and that when these cases come under our observation we will often reach a satisfactory diagnosis and treatment by making a thorough examination of these organs.

My attention was first called to this subject about two years ago by the following case brought to me by the late Dr. Wm. Selden, of Norfolk, Va.

Mr. ———, age 45 years, had suffered for some months from an almost continuous cough. With little or no expectoration, had sought medical advice and treatment in various quarters, resulting in no relief. With the aid of Dr. Selden a thorough examination of the chest was made, with only the detection of a slight mitral regurgitation, which the patient stated had been set down as the cause of all of his disturbances by one of the physicians whom he had consulted. Upon making the laryngoscopic examination I found what I took to be a sub-acute laryngitis. The whole of the superior region was congested, but I was somewhat surprised to find the secretions about normal. I made the usual astringent applications, and directed him to return in two days. These applications were repeated for several consecutive visits, followed by no improvement, when I, by chance, questioned him regarding his ears. He replied that his right gave him some discomfort. I introduced a speculum and found a much inflamed drum membrane. I found, also, a slight accumulation which somewhat obstructed my view, and to remove this I introduced a small wire probang tipped with a piece of absorbent cotton. Immediately my patient was thrown into a spasm of violent coughing. Upon regaining his speech, I asked him if I had produced, when I introduced the cotton, a like tickling sensation to that which had always preceded his attacks of coughing, and he answered in the affirmative. I then proceeded to introduce the probang with the greatest care, but my efforts were useless. I might approach the drum-head ever so lightly and with the merest fibre of cotton, and the same result would follow. After further questioning, I found that everything calculated to produce an impression, suddenly, upon the tympanum, such as sudden change from hot to cold, loud noises, and the like, would be followed almost immediately by one of those violent paroxysms. I at once discarded all treatment directed to the larynx and turned my attention to the tympanitis. I ordered application of heat, both by warm water syringing and hop poultices, externally, as hot as could be borne, alternated by blisters behind the angle of the inferior maxillary. I was pleased to note the happy result which terminated in entire relief to the patient.

I have now under care two cases of eczema of the external canal with the inflammation extending down to the drum-membrane and slightly involving it. In each of these there exists a more or less disagreeable cough which has been of such disturbance to one patient that he has sought medical counsel on several occasions for imaginary lung trouble.

Corner Granberry and Freemason Sts., Norfolk, Va.

REPORT OF THE CHAIRMAN OF SECTION OF FORENSIC MEDICINE.

By J. T. Nicholson, M.D., Bath, N. C.

(Read before the Medieal Society of the State of North Carolina, at Elizabeth City, April 16, 1889.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

It was only through the strong persuasion of the conviction of duty that caused me to accept the position as Chairman of Section of this highly important, though much neglected branch of science. And we find under the head of Forensic Medicine the subject of my remarks, namely :

DIPSOMANIA.

It is of very recent date that this subject has received much notice from either the legal or medical profession. If a man committed a crime during a paroxysm of dipsomania, he was taken up and dealt with according to law as regards drunkenness, and as law holds drunkenness to be no excuse for crime, I fear many poor dipsomaniacs have had to pay the penalty of death for drunkenness, while medical science says the disease of dipsomania is not drunkenness, drunkenness being only one of many symptoms of the disease. And when science declares authoritatively that dipsomania is a disease while it is yet a question with law, I think that law ought to respect and accept the teachings of science. It has been proven that the irresistable craving is beyond the control of the patient. He cannot help it. It is beyond his power. It assumes the proportions of mania. And Dr. Hutcheson says that "this sort of mania differs entirely from drunkenness. The diagnostic sign of the disease being an irresistable propensity to swallow stimulants in an enormous dose whenever and wherever they can be obtained." Still this is not an infallible sign, for I have seen men "never refuse" to take it in enormous doses that were not dipsomaniacs, and I have a dipsomaniac residing within the limits of my professional borders who, just prior and during a paroxysm of dipsomania, is satisfied with "even four fingers," provided it is not too long between drinks. Of course a distinction must be made between the self-controlling vice of drunkenness and the irresistable impulse of the disease. When the desire for the intoxicant has passed beyond the power of self-control, there are clear manifestations of disease showing existing abnormal conditions of the central nervous system, produced by continual use of alcohol, which demands alcoholic stimulation. We see the patient or dipsomaniac just prior to a paroxysm (which occurs at intervals of days, weeks or months), morose, nervous, irritable, depressed in spirits, insomnia prevails, loss or suspension of consciousness and memory. He acts automatically. Then, misled and perverted in the exercise of psychic powers, he is compelled against his will and judgment by the indomitable impulse produced by the irresistable craving or desire, he plunges foremost into dissipation, therefore he becomes not his own master. Alcohol predominates, guides and directs him in its own way. Then arises the question, Are dipsomaniacs criminally responsible? Why should they be?

They are subjects whose reasoning faculties have been dethroned by disease, therefore they are not their own agents. They know not right from wrong. And in a decision recently rendered by Justice Somerville, of Alabama, in the case of Parsons vs. State, he says that "if, by reason of the duress of such mental disease, the criminal had so far lost power to choose between right and wrong, and to avoid doing the act in question, so that his free agency was at the time destroyed," a crime committed by a dipsomaniac must be the act of an unsound brain. It has been proven beyond doubt that the deterioration of the nerve element produced by alcohol is the cause of the continual, irresistable desire for alcoholic stimulants. But not only does it effect the mental capacity of man, but the physical powers also. Dr. Bartholow emphatically declares that "few structures escape the deformation influence of alcohol when it is habitually taken into the system;" while Dr. Flint says that "the deleterious influence on the mental is not less marked than on the physical powers. The perceptions are blunted, the intellectual and morbid faculties progressively deteriorate, until at length the confirmed inebriate, miserably cachetic in body and imbrued in mind, has but one object in view—to gratify the morbid craving for alcohol.

There is a departure from normal mental life and when the faculties of the mind have become so impaired by the deleterious influence of alcohol as to render the subject incompetent to discriminate between right and wrong. There are clear psychical manifestations of brain disease, and the subject becomes totally irresponsible, just as kleptomaniacs, nymphomaniacs, pyromaniacs, or any other maniacs. And not only do we see the damaging influence to dipsomaniacs, but the deleterious influence of alcohol to the brain is so great as to become transmissive and hereditary. And it is handed down from father to son, from generation to generation. Erasmus Darwin over one hundred years ago wrote "that it is remarkable that all diseases from drinking spirituous or fermented liquors are liable to become hereditary, even to the third generation, gradually increasing until the family becomes extinct." Our rules of criminal jurisprudence must needs undergo great changes. And how must they be wrought? The The House of Correction has proven almost a failure in a majority of cases. It only gives us relief while the inebriates are confined. If science is to be respected by law, and the scientific teachings of to-day are that dipsomaniacs should never be hung for crimes committed while under the influence of alcohol, then what disposition should be made of them? While many subjects are arousing the public mind to the welfare of the human family, we should not be latent in this. The yearly expenditure of such enormous sums of money for the prosecution and defense of the inebriate criminals (not mentioning the disgrace and distress brought upon families) would repay in establishing in each State a place of permanent confinement. Something should be done to stamp out their propagation, either by permanent confinement or orcheotomy.

SELECTED PAPERS.

ANTIPYRETICS.

By Edward N. Whittier, M.D., of Boston, Visiting Physician to the Massachusetts General Hospital.

The mean bodily temperature of warm-blooded animals results from the correllation of three factors, heat production, heat dissipation and heat regulation. It is an expression of the balance maintained between the heat produced in the body and the heat lost from the body, through the influence of a regulative process; it is an equilibrium of temperature, or state, in which the heat produced by chemical changes chiefly in the muscular envelopes of the skeleton and in grandular structures, has a counterpoise in the heat discharged by the skin and respiratory organs, in the process of evaporation, conduction and radiation.

The "constant bodily temperature" of health is the marvellous maintenance of an almost uniform temperature by the mechanisms which coördinate the loss with the production of heat.

Temperature regulation by variations in heat loss, and temperature regulation by variations in heat production have a common source, in a thermo-taxic mechanism which not only controls normal temperature, but also explains the processes by which abnormal temperatures prevail in disease, for fever of necessity implies a disorder of the thermo-taxic mechanism.

What is fever? How defined, what its nature, its pathology, its mechanism, its etiology; what are the various theories bearing upon this subject, and where are the clinical aspects of the fever question to-day?

These and other topics of kindred significance have recently formed the subjects of papers of great value, representing the most advanced opinions and the best conclusions based upon original research and recent literature.

Kindly permit me to preface the subject assigned me with a synopsis of the views relative to fever which are entitled to representation here; for there can be no intelligent and profitable discussion of the subject of Antipyresis which is not based upon a fair understanding and agreement as to the significance of the term Pyresis.

No one to-day rests his definition of fever on the single symptom of elevation of temperature, nor does any one fail to recognize fever as a symptom complex or group of symptoms, in which disordered heat occupies the dominant position and is necessarily the essential feature; but associated with this and so intimately blended with it as to be deservedly regarded as part and parcel of the process known as fever are the other symptoms of the group—disordered circulatory and respiratory functions, loss of muscular power, digestive derangements, changes in glandular secretions, notably of the kidneys, impaired nutrition, tissue changes, loss in weight, and symptoms referable to the nervous system.

Elevation of temperature is the essential and predominating factor in fever, and the questions as to the cause of this abnormal rise are various and vexing, and are by no manner of means as yet adjusted, although during the past two or three years greater advances have been made than ever before towards the solution of the problem.

The combustion theory, the hæmic, the zymotic, the traumatic, the chemical, the nervous theory—each has its advocates and its zealous defenders; but the weight of evidence and of influence, the teachings of physiology and of pathology, influences powerful in moulding opinion, are in the direction of assigning to the nervous theory the highest position as an exponent of the method by which increased production of heat becomes the dominant element or symptom in fever.

It has been said, and well said, that the nervous theory of fever rests upon the tripod of heat regulation, heat discharge and heat production, and that the normal as well as abnormal temperatures can be explained by the predominance in varying degree of each of these processes.

Dr. McAlister, in his lectures on the nature of fever, argues that the doctrine of evolution as applied by Hughlings Jackson to the motor functions can be applied with equal directness and force to the heat producing functions, that the element in thermal mechanism which is lowest, the heat discharging, is the earliest and best organized; this is the vaso-motor apparatus long since demonstrated to control the circulation of blood in the superficial part of the body, thereby in great measure controlling the discharge of heat; the other factors in the process of heat discharging, respiratory and sudorific, are equally well under the control of the nervous system.

Heat producing, the element of thermal mechanism which is second in the order of development, is in fair way of definite localization. This is certainly an inhibitory centre which depresses or controls the production of heat, probably by acting on the trophic cells of the gray matter of the spinal cord (H. C. Wood). It is also part of the logistics of heat mechanism that are cerebro spinal centres, which, when stimulated, excite heat production.

The third element, the most sensitive, the most unstable and the last in the life of tne individual to reach the point of adjustment, is thermo-taxis, or heat regulation. No one has yet localized it, no one has more than described it as least organized, least automatic, least and last developed. It coördinates heat dissipation with heat production. Thermal ataxia implies irregularity of temperature, and that alone.

Thermotaxic and thermogenic disorders when coexisting, imply ordinary fever, while disorder of all, heat regulation, heat production and heat dissipation, implies a dangerous increase of heat, a steadily rising temperature, a general hyperpyrexia of extreme gravity.

Puncture of the caudate nucleus and injury to the spinal cord in the upper cervical region have each been conclusively demostrated to be causative of increased heat production and elevation of temperature, and these experiments on animals have induced all the essential conditions of fever, namely, increased heat production, increased heat loss, increased absorption of oxygen, increased formation of water and carbonic acid and large increase in formation and elimination of urea, with corresponding changes in pulse and temperature curves. McAlister and Welch, McAlister propounding, Welch seconding, discuss the question of the origin of the heat producing phenomena in the existence of nerves whose chief function is on the one hand the disintegration, on the other hand the restoration of muscles, basing these conclusions largely on the results of the researches of Gaskell, whose conclusions were that inhibition, for instance, of the heart's muscle, is restorative through the influence of the pneumogastric, and that the accelerator nerves of the heart induce opposite or destructive changes, and that the muscular substance when disintegrated gives rise to heat and mechanical work.

"If it be found (Welch) that similar inhibitory and accelerator nerves preside over the chemical changes in voluntary muscles and other tissues of the body, then Gaskell's induction as to the existence of thermo-excitory and thermo-inhibitory nerves ranks as one of the most profound and important in modern physiology."

According to Maclagan, the thermal nervous apparatus consists of :

1. Tissues in which heat is formed.
2. Heat eliminating surface.
3. A thermic centre, controlling heat.
4. Nerves from the central controlling power to the heat forming parts of the body.
5. Nerves connecting the heat controlling centre with the parts involved in heat elimination.

So long as all these parts of the thermal apparatus are in harmonious operation, normal temperature prevails, but interruption of this harmony causes the temperature to rise or fall.

Maclagan does not regard as antagonistic the two theories of fever which have secured the strongest foot-hold, namely, the combustion and the nervous theories; he regards each complete in itself, that the combustion theory, "according to which the rise of temperature results from increased activity of the processes by which heat is naturally formed in the body," is in no way inconsistent with the neurotic theory, according to which the rise in temperature is due to impairment of that inhibitory force by which heat production is restrained and kept within normal limits.

Austin Flint embodies his views in three propositions :

1. It is probable that the original cause of most, if not of all, the essential fever, is a micro-organism, different in character in different forms of fever.

(This conclusion is based upon recent advances in bacteriology.)

2. Restricting the definition of fever to the expression, "an abnormal elevation in the general temperature of the body," he regards the pyrexia as due to oxidation of certain constituents of the tissues, due to micro-organisms in the blood; that this oxidation results in increased waste of tissue and is represented by an excess of carbonic acid and urea excreted.

The part which the formation of water within the body plays in the production of heat, is either suppressed or is greatly diminished in prominence.

3. Fever produces abnormal consumption of fat with parenchymatous degenerations; and, finally, he defines an essential fever "as an excessive production of heat in the body induced by a special morbific agent or agents and due to excessive oxidation, with destruction of the tissues of the body and either a suppression or a considerable diminution in the production of water."

Prof. H. C. Wood summarizes our knowledge of fever in three propositions :

1. Fever is a disturbance of calorification in which through the nervous system heat dissipation and heat production are both affected. If there be a fever which is produced by the direct action of a poison independently of the nervous system, we have at present no proof of its existence.

2. Heat production is regulated by a nervous apparatus of which our knowledge is still imperfect. There is certainly an inhibitory centre which depresses or controls the production of heat. It does this, probably, by acting on the trophic cells of the gray matter of the spinal cord. It is also probable that there is a centre which, when excited, increases tissue change, but its existence has not been absolutely proven.

3. Heat dissipation is regulated through the nervous system, so that vaso-motor paralysis is followed by an enormous loss of animal heat, and under favorable conditions by death from cold.

The views of the German school are thus defined in a paper recently published :

Bacteriological investigations have resulted in great advances in our knowledge of the etiological factors of disease. Ziemssen states that we now believe that the effects of the action of harmful agents on an organ or group of organs or on the entire body, are the necessary consequences of action on the cell, and the consequent changes in the physiological function of the tissues.

The bacteriological theory of the need and usefulness in all infectious diseases, of a high temperature, has had many and able advocates, who have argued that the febrile movement was a proper expression of the resistance developed in the patient, reactionary in its influence and results, and destructive to the micro-organisms productive of the fever.

Welch, in his "Lectures on the Pathology of Fever," says : "There is so much which speaks in favor of this doctrine. The real enemy in most fevers is the noxious substance which invades the body, and there is nothing to prevent us from believing that fever is the weapon employed by nature to combat the assaults of this enemy. The doctrine of evolution indicates that a process which characterizes the reaction of all warm-blooded animals against the invasion of a host of harmful substances, has not been developed to such an extent, and is not retained with such pertinacity without subserving some useful purpose. The supposition seems more probable that the increased oxidation of fever aids in the destruction of the injurious substance. According to this the fever producing agents light the fire which consumes them. It is not incompatible with this conception of fever to suppose that the fire may be injurious to the patient and require the controlling hand of the physician."

In opposition to this view of the salutary influence of fever are the results in febrile infectious diseases, wherein treatment not only abates the fever, but also the infection. Mention may be made of the periodical fevers, of rheumatism, etc ; in these diseases specific remedies induce desired results by reduction of temperature and diminution of infectious material. And by analogy and in those infectious diseases wherein there are no specific remedies, experience guides us in the employment of methods by which fever and the morbid processes due to infection are reduced to the minimum of harmful influence.

It is upon this broad platform of clinical experience, upon this firm and enduring basis, that the doctrine of antipyresis rests, and the questions propounded in the laboratory of experimental pathology and bacteriology find their answers in the results of observations at the bedside.

The change to the present and prevailing opinion concerning the nature of fever (for the neurotic theory is the prevailing doctrine) finds its parallel in the change of opinion in relation to the harmful effects of high temperature.

Careful analysis of the transactions of the first and fourth German Congresses of Internal Medicine cannot fail to impress one with the strength of the position occupied by German clinicians and physicians in the opinion that high temperature, and that alone, cannot longer be considered the dangerous element in fever. The recent review of the pathology of fever by Professor Welch, of Johns Hopkins University, leads up to the conclusion, confessedly an advanced position, "that even in fevers, such as typhoid and pneumonia, when the height of the temperature is undoubtedly a most important index of the severity of the disease, there exists no such parallelism between the temperature and the nature and severity of the other symptoms as we should expect if these symptoms were caused by the increased heat of the body, and both clinical and experimental observations strongly support the view, now widely accepted, that the disturbances of the sensorium which constitute so prominent a part of the group of so-called typhoid symptoms, are dependent upon infection," or upon the poisonous substances produced in the body by the pathogenic micro-organisms rather than by high temperature."

The various opinions expressed are well condensed by Baruch, in his admirable article on the treatment of typhoid fever: "Since it may now be regarded as an established fact that high temperature, minus infection, does not produce those serious degenerations formerly ascribed to it, we must seek in the infection process and the ptomaine intoxication those deleterious effects upon the vital organs which undermine the system and eventually cause death."

I recognize distinctly, and all the more forcibly from a somewhat extended examination of the literature of the subject, the great obstacles in the way of a satisfactory exposition of the present status of antipyresis and antipyretics. I have endeavored to place before you briefly, necessarily so, by reason of the limitations placed by custom upon papers prepared for these occasions, some essential facts; but without much greater elaboration of the subject I cannot otherwise than rest here in my definition of fever, and ask your attention in the remaining portion of this paper to the practical application of the subject assigned me.

Antipyresis includes all measures designed to reduce temperature and to resist the noxious influences of the various infections and toxic fever producing agents. Classification of the means employed is not simple; for the therapeusis of antipyresis is a complex subject, and whatever of confusion may seem to exist, can only be explained by the lack of harmony in the various and varying views still entertained as to the nature of fever and the methods to be employed for its control. Those who believe the harmfulness of high temperature rely upon antithermic medication, while those who regard high temperature as relatively harmless and assign to micro-organisms and chemical changes the most important position, causative of the complex process known as fever, rely upon measures to increase the dissipation of heat, and through the influence of the nervous system to improve individual powers of resistance.

Antithermic remedies of recent date include all of the so-called aromatic series, the modern synthetical compounds. The true antithermics act absolutely (according to Wood) on heat production and heat discharge (thermolysis and thermogenesis) through the inhibitory nerve apparatus, diminishing in similar manner, though not in equal degree, heat production and heat dissipation; heat production falling decidedly more, as a rule, than does heat dissipation. This effect has been proven to be independent of any influence on the circulation, and in all probability the result is produced through the nervous system directly upon the chemical movements of the organism.

Antifebrile remedies include the "false antipyretics," which increase heat dissipation by acting upon the vaso-motor system and inducing vaso-motor paralysis, of necessity producing the discharge of animal heat in large volume. Prominent in this class we recognize aconite and veratrum viride, and it is not altogether improbable that in a limited degree by a similar effect on the vaso-motor apparatus some of the so-called antithermics exert an influuence on cutaneous and respiratory discharges of heat.

Both the false and the true antipyretics (and this latter class is made up of those drugs which diminish heat production primarily, and only secondarily and in an unimportant sense promote heat dissipation) have of late fallen into disfavor as means to control the course of disease, to lessen complications or to reduce the mortality rate. Glénard closes the discussion before the Society of Medical Sciences at Lyons by stating that the law once more verifies itself, that the obituary curve osciliates in direct ratio with the consumption of antithermic remedies, and inverse ratio to the number of cold baths administered.

Abstraction of heat by cold baths is far less important in its effects than the vitalizing of nerve centres through the reflex stimulus aroused by low temperature applied to the peripheral nerves, and by a reduction of the temperature of the blood circulating in the internal organs.

It is considered that the result of this lowered temperature of the blood is a grateful stimulation to the nervous system, and that the reflex-stimulus of nerve centres by cold bathing of the surface of the body induces an innervation for circulation, digestion, respiration, tissue formation and excretion, so that the rapid heart is slowed, the hurried respirations are checked, the failing digestive powers are quickened, and muscular irritability is allayed. Quiet takes the place of restlessness, wandering and delirium disappear, anorexia gives place to desire for food, and more than this, the digestive powers are strengthened, nutrition improves, and the waste of tissue is lessened.

The advocates of the antithermic, internal antipyretic and expectant method in antipyresis, have placed much reliance on the experimental and physiological action of cold applied to the surface of the body, as determined by the researches of Fréderícq of Liege, and others, by means of the well-known apparatus of Regnault and Reisset.

The conclusions that "we are warranted in affirming as a physiological law, that under the influence of cold baths organic combustions are energized and augmented," would appear to be well-drawn, and would appear to afford to many a fairly reasonable excuse for not entering upon a course of treatment which might be accompanied by danger greater than that which was hoped would be neutralized; and the teachings of experimental physiology would seem to justify us in regarding the method of cold baths, considered as antipyretic and applied to the treatment of febrile phenemena, as an irrational practice; but we find in the abstraction of heat, in the tonic effects of cold water, in the sedation effected in the nervous phenomena induced by the febrile process; above all, in the results of saving human life, an answer to all objections, a refutation of all opposing theories and a justification of the method.

And this brings full before us for consideration the wonderful, the phenomenal, the almost miraculous control exerted over the death-rate in our chief infectious disease, typhoid fever, by the use of cold baths as an antifebrile agent. And permit me here to remind you that the febrile movement is to be regarded as a symptom complex, in which high temperature no longer occupies the chief place, the prominent position formerly assigned to it, but is secondary in its influence to that exerted by the more important group of fever producing agents formed by the pathogenic micro-organisms, the chemical changes set up in the tissues and the intoxication developed in nerve centres by the ptomaines, the alkaloids of decay. Let me here repeat an axiom in antipyresis. "Abstraction of heat by cold baths is far less important in its effect than the energizing of nerve centres through the reflex stimulus aroused by the shock to the extensive peripheral nerve endings, whereby innervation is furnished for circulation, respiration, digestive tissue formation and excretion, so that the system is enabled to tide over the dangers which would ensue from failure of these functions." "This," writes Baruch, in this admirable article on the treatment of typhoid fever," is the effect of cold bathing in a nutshell—the simple cooling of the blood occupies a secondary, though not unimportant, office."

Permit me to spread before you, and here I again avail myself of a recent paper on the treatment of typhoid fever, "Statistical Evidence in Support of the Claims of the Advanced School of Hydrotherapy"; and you will doubtless concede that never in the history of medicine have statistics of such magnitude, from such reliable and diversified sources, been brought to bear upon a question of therapeutics.

Baruch states that he had gathered from the New York City Board of Health Reports, from 1876–'88, 7,712 cases of typhoid fever, with a mortality of 41.28 p. c. Dr. Delafield, in 1885, states that the mortality of typhoid in the New York Hospital was 24.66 p. c. The mortality rate in the Boston City Hospital has been 13 p. c. The mortality rate in the Massachusetts General Hospital has been 16 p. c. Brand collected 11,124 cases, treated under the expectant plan, with a mortality rate of 21.7 p. c., and with infinite labor and pains, the record of 19.017 cases, to show that "under the general influence of all kinds of cold bath treatment, without, however, its strict enforcement, the mortality had been reduced from 21.8 to 7.8 p. c."

Brand also obtained from 23 sources, German and French, of undoubted authenticity, reports of 5,573 cases treated by the cold bath, as advised and urged by him, with a mortality rate of 3.9 p. c.

In the Second Prussian Army Corps, betweed the years 1849–'66, there were 1,970 cases, with a mortality rate of 26.3 p. c. Later, and under the cold bath treatment, in 2,711 cases, the mortality rate was reduced to 4.30 p. c. This contrast is all the more striking when it is considered that at the same time the mortality rate among French soldiers was 32.2; among Italian, 28.6; among Austrian, 27.4; and in the English service, 23.8. Vogel quotes 713 cases, with a mortality rate of 3.40 p. c. Uannyn, 145 cases, with a mortality rate of 6.9 p. c. Brand, an additional series of 2,198 cases, with a mortality rate of 1.7 p. c. Juergensen, Vogel, Brand, and some others, furnish reports of 1,223 cases, treated strictly and rigorously in accordance with the plan devised by Brand, with a mortality rate of 1 p. c.

From the latter part of the last century, when Currie published his work on the treatment of acute diseases by cold, up to the present time, but particularly between the years 1861 and 1877, many and important as well as authoritative works have been published bearing upon the treatment of febrile diseases, especially the acute infectious diseases, by cold baths.

Currie, in 1797; Giannini, in 1805; in 1812 the results of Recamier's labors; in 1822, Hufeland; Scouttetin in 1843; Jacquez in 1847; and in 1852 the classical work of Leroy. But it remained for Brand, as early as 1861, and in the succeeding years up to 1877, to accomplish the wonderful results described by Ziemssen, as "the work of one who, by the precision and rigorousness which he has put into his method of refrigeration, has merited the right of associating his name with this work of treatment of typhoid fever," the disease, in which, above all others, antipyresis exerts the largest and best influence.

I introduce at this point, in order that I may reinforce the statement relating to difficulties in the classification of the means employed in antipyresis, the division made by Ziemssen in his recent lecture on antipyresis and antipyretics.

Ziemssen groups authorities according to their opinions of the value and form of antipyretic treatment into six divisions :

1. Of those who use the cold bath and do not employ internal antipyretics.

2. Of those who employ luke-warm baths, but do not use internal antipyretics.

3. Of those who, governed by symptoms, make use of either the cold or the luke-warm bath, and internal antipyretics.

4. Of those who regard high temperature needful and advantageous, employing baths and internal antipyretics only in the presence of symptoms or complications dangerous to life.

5. Of those who regard high temperature as necessary and refuse all measures leading to its reduction, confining their attention to the diet.

6. Of those who deny the influence of treatment in the reduction of the rate of mortality.

From this it may be seen that even in Germany, where the study of antipyresis and of antipyretics has been most profound, and the conclusions have been most carefully scrutinized and the effects of treatment, in one direction, at least, have exceeded in the positive results of saving human life, all previous efforts, as yet there remains a very large, and, it would appear, an unaccountable lack of harmony, in views expressed, in conclusions maintained, and in methods governing treatment.

[Dr. Whittier concludes his paper on the above subject (*Boston Medical and Surgical Journal*, November 7) as follows :]

Our chief infectious fever, typhoid, has been selected for the study in its clinical aspect, of refrigeration, and the influence on the disease, of the application of cold to the surface of the body.

The tables of results, as expressed in mortality rates by percentages, wherein the salutary influences of cold baths are compared with all other previous and present methods, ought to carry conviction most profound to the most skeptical—a conviction, that in not conforming to the requirements of the system of Brand, we should fall far short of doing our duty in this most important and frequent class of cases. Juergensen stated, in the Congress at London, that "whenever he attempted to deviate from the rigorous cold water treatment, he was compelled to return to it in order to obtain the best results." I appreciate fully the objections which may be raised, growing out of the lack of the proper mechanical appliances, to enable us to comply with the requirements of the method of Brand in all its precision of detail, but the difficulties to be overcome are far from being insuperable.

I append herewith the method of refrigeration employed by Brand, The reasons why other physicians have failed to secure corresponding results in the reduction of the mortality rate, in typhoid fever. for instance, will be found in defective application of the method insisted upon by Brand; the defect will be found in the absence of the needful rigorousness and precision, so strenuously insisted upon by the originator of the system.

The method of refrigeration employed by Brand is thus described by Dujardin-Beaumetz, in a lecture delivered in Cochin Hospital in 1878.

"The bath-tub shall be traced near the bed. The bath-tub shall contain a sufficient quantity of water, so that the patient when immersed in it shall be completely covered up to his neck. The temperature of the water should not exceed 20° C. (78° F.) Tripier and Bouveret distinguished in this regard three varieties of cold baths—baths with a temperature of 22° to 24° C., of 18° to 20° C., and of 14° to 15° C., and they regulate the temperature of the bath by the intensity of the fever and the resistance to refrigeration.

"Before carrying the typhoid patient to the bath-tub, and in order to diminish the trying and painful sensation of cold, the abdomen is rubbed with the water of the bath. Then the patient is placed in the bath, and all the time that he remains there the head is showered with ice cold water. It is understood that the hair shall have previously been cut short in order to render these affusions more active. Brand recommends also to rub the belly and back of the patient during the time of the bath. The patient is kept in the bath about fifteen minutes; in certain cases the bath may be prolonged to twenty minutes. At the end of this time the patient is taken with shivering and chattering, and is then removed to his bed, and his lower limbs are covered with blankets. As for the rest of the body, in summer only a simple sheet is employed, and in winter a sheet covered with a woollen blanket.

"At the end of twenty minutes the temperature is taken, and during the period of comfort which ensues, some nourishment is given. Every hour the temperature is taken anew, and when the mercury resumes its ascending march, and reaches 39° C. (102° to 103° F.), whether during the day or night the patient is again plunged into the cold bath. Brand has fixed at about three hours the interval which should elapse between the baths, but this period may be made much shorter. and reduced to two hours, or one hour and a half, if there be very high fever heat and great resistance to refrigeration. Brand insists also that in the interval of the baths the nurses should keep constantly applied over the abdomen of the patient compresses wet in cold water, and renewed as fast as they become warm.

"It is well on the inception to resort to cold ablutions with towels (not sponging). Friction aids heat elimination by dilating the cutaneous vessels, and the shock refreshes the nerve-centres (Winternitz). Then the patient grows accustomed to the more energetic bathing, which may be opened with the half bath, combined with gentle chafing, and gradually culminate in the full bath at 65° F.

"The patient, when taking the bath and at all times, should be well supported with such nourishment as is suitable for his condition—milk, wine, broths, peptonoids, etc. No other treatment is employed.

"Such is Brand's method in all its rigorousness and exclusiveness. In order that it may give success, it must be applied from the very onset of the fever. In proportion to the tardiness and lateness of its inception, the chances of success are lessened. In reference to no mode of treatment has the appeal to statistics been more confidently made, and the advocates of refrigeration have endeavored to show that when Brand's system has been followed to the letter the mortality from typhoid fever is reduced to a very low figure."

Internal antipyretics or antithermics have had a large and enthusiastic following. It has not yet been demonstrated by those most skilled in the employment of these remedies to reduce temperature, that the duration of febrile disorders has been shortened, that their course has been modified in any essential particular, or that the mortality rate has been lessened. An eminent authority two years ago claimed that the mortality rate had been reduced by antithermics, but stated that his belief was that the small improvement was attributable to the comfort afforded the patient more than to the removal of danger from high temperature; this year the same authority, after more careful study of the subject, states that he is prepared to agree with Brand, that the only advantage from antipyretic medication seems to be that the patient is able to die with a nearly normal temperature.

The aspirants for antithermic honors have come upon the stage of action with imposing credentials and with all of the influences of hereditary tendencies towards the reduction of high temperature whenever and wherever found, by the use of antipyretic medication. The vast majority have played a feeble part in the process assigned them, and claimed for them, and have failed signally to gain for themselves a fixed position in the list of therapeutical remedies upon which reliance may be placed.

Quinine, carbolic acid, salicylic acid, salicin, salol, antipyrin, antifebrin, thallin, kairin, acetphenetidin, pyrodine, methacetin, phenacetine—how formidable the array; how few the survivors!

I have the pleasure of presenting a summary of the latest and most advanced views and conclusions bearing upon the physiological, therapeutical and toxicological effects of those antithermics which, in my opinion, are entitled to a place as remedial agents in pyrexial disorders.

ANTIPYRIN.

This is a grayish crystalline powder of a slightly bitter taste, very soluble both in water and alcohol.

Nitrous acid produces with antipyrin a new compound, iso-nitroso-antipyrin, which crystallizes in small grayish-blue crystals. The sweet spirits of nitre of the Pharmacopœia almost invariably contains free nitrous acid, and on addition of antipyrin a greenish color is produced by the formation of iso-nitroso-antipyrin. Very large doses of this product produce no perceptible effects on dogs and rabbits. The practical result, therefore, of mixing antipyrin and spirits ætheris nitrosi is simply to render a certain amount of the former inert.

Given to animals in moderate toxic doses, antipyrin causes first a cataleptic state, then increased reflex activity, opisthotonos and convulsions. Larger doses cause complete relaxation, loss of reflex activity, and death.

These results seem to be due to an action both on the spinal and cerebral centres and on the sensory and motor nerves, but the method of action is still obscure.

Moderate doses of antipyrin increase the arterial pressure, toxic doses lower it, and in the frog, paralyze the heart. These effects are probably due to vaso-motor spasm, since antipyrin seems to have an action similar to that of ergot in checking hemorrhage.

Considerable doses in man produce a livid color of the face, especially marked in the lips, due to the production of methæmoglobin, though the blood corpuscles themselves are not destroyed, even after toxic doses. Ordinary doses do not affect the respiration, but toxic doses diminish and finally arrest it.

Antipyrin is rapidly eliminated by the kidneys, appearing in the urine in half an hour and being mostly eliminated within twelve hours.

The urine is sometimes increased in amount, but may be diminished if free sweating has been produced. Urea is said to be decidedly diminished.

Temperature is usually lowered in normal, and almost always in febrile, conditions. The fall begins in about half an hour and is accompanied by profuse diaphoresis.

The depression of temperature usually lasts longer than that caused by other antithermics, continuing from two to twenty hours. It is accompanied by a reduction in the rate, but not in the force of the pulse.

This fall is independent of diaphoresis or of any action upon the general circulation, and is probably due to direct influence upon the heat centres.

Experiments upon dogs show that both in normal and in febrile conditions the fall of temperature is due to decreased heat dissipation.

Antipyrin has been recommended as an antithermic in almost all febrile conditions. It has frequently, however, caused collapse, and must be used with great caution. In phthisis, especially, it appears to produce so much feebleness and depression as, in the opinion of various observers, to forbid its use. In typhoid the patient is usually more comfortable under the action of the drug than at other times. Sometimes, however, it causes a distressing vomiting. The antipyretic uses of the drug are at present attracting less attention than its analgesic properties.

The dose for an adult should not exceed 20 grs., and H. C. Wood advises that the first dose should not exceed 10 grs. These doses may be repeated two or three times, at intervals of one or two hours. Three grains is sufficient for a child of two years, and should not be repeated more than once.

Idiosyncrasies in regard to susceptibility to the drug are not uncommon, and alarming conditions have been produced by small doses. A quantity well borne at one time may cause the most dangerous sypmptoms at another. In kidney diseases elimination is interfered with, and toxic effects may arise. In some cases it is said to act injuriously on the heart muscle, and weakness of the circulation is a certain indication. In children with pneumonia grave toxic symptoms have been seen.

The following are some of the effects which have been observed to follow doses of 15 to 30 grs.: Dizziness, vomiting, gastroenteritis, increased frequency of pulse and respiration, dyspnœa, cyanosis, dryness of throat, coryza, urticaria, herpes, sudamina, erythema, macular eruptions, purpura, œdema of the face, arms and legs, rise of temperature, subnormal temperature, collapse. Several deaths are reported, among them that of a girl aged ten years, who died after two doses of 10 grs. each; a woman with puerperal fever, after 15 to 30 grs.; another woman after 52 grs. in two doses. Granular and fatty degeneration of the liver and kidneys have been found, post-mortem, in some cases, and were attributed to the large doses of antipyrin which were given.

ACETANILIDE OR ANTIFEBRIN.

This is a white crystalline substance prepared by heating together a mixture of anilin acetic acid. It is without odor, causes a slight burning sensation on the tongue, is soluble only in 189 parts of cold water, more soluble in warm water, freely soluble in alcohol, ether and chloroform.

Given to animals, it greatly lowers the temperature, interferes with the conduction of both motor and sensory impressions, decreases the reflex excitability of the spinal cord and causes convulsion movements. Toxic doses paralyze the peripheral motor nerves, abolish reflex activity, cause paralysis, coma and death.

Large doses cause a peculiar discoloration of the blood by reducing hæmoglobin to methæmoglobin. The red corpuscles become granular and in part dissolved, do not adhere in rouleaux, and the serum contains dissolved coloring matter. The amœboid movements of the white corpuscles cease. The prolonged action of large doses produces fatty degeneration of the heart, liver and kidneys.

In ordinary medicinal doses the heart's action is strengthened rather than weakened. The pulse becomes less frequent as the temperature falls, while tension at the same time rises. Experiments on animals have shown that when even injected into the veins, not the slightest fall of blood-pressure is produced. Large doses depress the heart and cause collapse. It is generally thought that the cutaneous vessels are at first dilated.

Cyanosis occasionally occurs, but usually only after doses of 7 grs. or more. It passes off quickly when the administration of the drug ceases, and is not a serious symptom. It is probably a vaso-motor phenomenon, but may be due to the production of methæmoglobin.

Cutaneous rash is very rarely seen, but sudamina and redness may occur with profuse sweating.

Fall of temperature is produced both in pyretic and apyretic conditions, but this action is energetic in proportion to the height of the fever. The fall of temperature generally begins within an hour, reaches its maximum in two to four hours, and the effects of a single dose usually lasts from three to six hours or more.

The fall of temperature is usually accompanied by profuse sweating, but less than that produced by corresponding doses of antipyrin. Sweating does not cause the fall of temperature, since the latter occurs when the sweating is arrested by atropine or agaricine. Chilliness is sometimes noticed when the temperature begins to rise, but rarely rigors, and shivering is less common than after kairin, thallin or antipyrin.

Experiments on man and animals indicate that in fever acetanilide produces a fall of temperature chiefly by decreasing heat production. Enclosing animals poisoned by acetanilide in cotton-wool will not prevent the fall of temperature. Whether the antipyretic effect is due to direct stimulation of the inhibitory heat centre, paresis of the spinal heat centre or to an action on the tissues themselves, has not been determined.

Toxic doses cause vascular paresis and increased heat dissipation.

Respiration is but little affected by ordinary doses, but after toxic doses the respirations at first become superficial and frequent, then irregular, and finally cease.

Though comparatively insoluble, acetanilide is readily absorbed, producing noticeable effects, sometimes in ten or fifteen minutes, especially in children. Vomiting or gastric irritation is caused only by toxic doses.

Most observers agree that acetanilide is a moderate diuretic, though not an irritant to the kidney. It is broken up in the system, but after large doses may be excreted in part unchanged, and in such cases methæmoglobin has been found in the urine.

The therapeutic indications for acetanilide appear to be exactly parallel to those of antipyrin. It has been highly recommended as an antithermic in almost all febrile conditions. Guttman, after trying the remedy in 181 febrile cases, says that in typhoid fever he believes that the results obtained with the internal antipyretics are at least as good as those obtained with the cold bath, and of these substances he deems acetanilide the best in this affection. He opposes the giving of small divided doses as ineffectual, and obtains better results with single doses of 4 to 11 grs. In typhoid fever he gives 7½ grs. morning and night, and occasionally three times a day. After twelve or fourteen days 4 grs. is usually sufficient. In this way complete apyrexia, lasting often six hours, was obtained in every case, and the subjective sensations of the patient were greatly improved. Other observers have found small doses to bring down the temperature, quiet muttering delirium, relieve headache and produce sleep.

In phthisis it is a powerful antipyretic, but more liable to cause cyanosis than in any other ailment. It is best given with a stimulant, and sweating counteracted, if necessary, with atropine or agaricine. The usual sweating in phthisis is often diminished or avoided altogether by a dose given in time to prevent the evening rise of temperature. Children bear the remedy well.

In febrile conditions an average dose is from 4 to 7 grs., and 30 grs. a day is usually sufficient. Rheumatic fever and pneumonia seem to require larger doses. Phthisical, weakly and anæmic patients require small doses. If used for some time an increase of dose is necessary to obtain the usual effects.

The long continued use of large doses in some cases causes anæmia and the so-called anilin cachexia, due to solution of the red blood corpuscles. In such cases fatty degeneration of the heart, liver and kidneys has been found, post-mortem, both in animals and men.

Single large doses may cause cyanosis, cardiac weakness and collapse. Ten grains has produced complete collapse in phthisis, and 9 grs. had the same effect in a case of pneumonia. In rare cases collapse may occur from small doses of 3 or 4 grs. In the case of a child 4 grs. every two hours during the day caused death the same evening.

PHENACETINE OR PARA-ACET-PHENETIDIN.

This is derived from phenol, and occurs as a white crystalline powder without taste, almost insoluble in water, but easily soluble in hot alcohol and in warm lactic acid.

Its physiological action on animals has been very little studied as yet, but is probably analogous to that of acetanilide. Very large doses have been given to animals without producing toxic symptoms.

Given in febrile conditions it is a reliable antithermic. The fall of temperature is gradual; begins in one-half to one hour, reaches the lowest point in three or four hours, and is then followed by a gradual rise, the influence of a single dose of 7 grs. lasting from six to ten hours. The fall of temperature is always attended with free perspiration, but very rarely with any gastric disturbance, rash, cyanosis or collapse.

It has no depressing action on the heart, but seems rather to strengthen its action. The frequency of the pulse and respiration diminishes with the fall of temperature.

The amount of urine is said to be increased. Phenacetine has been detected in the urine, and is also found in the milk of nursing women

It has been found useful in all febrile conditions. In typhoid fever, while lowering the temperature, it relieves headache, clears the mental condition and causes a general sense of relief. To maintain a low temperature, 7 grs. have been given every four hours, and even when continued for a considerable time these doses have rarely given rise to the slightest accident in fever cases. Thirty grains in twenty-four hours is usually sufficient.

In phthisis and other asthenic conditions it may cause a feeling of weakness, and should be used with caution. It has been given for months without any unpleasant symptoms, but seems to lose somewhat of its effect. The usual dose in febrile conditions is 7 grs. Though safe in comparison with the other antipyretics, a few unfavorable results have been reported. Fifteen grains given in a case of migraine caused giddiness, flashes of light, trembling of the limbs and nausea. Ten hours later a second dose produced a feeling of intense cold, cyanosis, cold perspiration and dyspnœa.

In another instance, a papular eruption, lasting three days, appeared on the thorax, abdomen and arms. One-half to 3 grs. in the case of a child were followed by profuse sweating, intense cyanosis and collapse. In two cases in which 92 to 123 grs. were daily given, decided cyanosis was produced, and an examination of the blood revealed the presence of methæmoglobin.

PYRODINE.

This is a white crystalline product, sparingly soluble in cold water, and possesses very little taste.

Large amounts depress the heart and lower blood pressure by a direct action on the vaso-motor centre. It has a directly depressing action on the spinal cord and lowers reflex action. Repeated doses produce jaundice due to hæmo-globinæmia.

Doses of 8 to 12 grs. cause marked reduction of temperature in two to four hours. The temperature remains low for several hours, when a slight rise occurs and is followed by a second reduction, so that the action of a single dose may last an entire day. The reduction of temperature is accompanied by profuse sweating, but no collapse, vomiting or nausea have been noted, even with a considerable fall of temperature.

It has been found a reliable antipyretic in pneumonia, scarlet fever, rheumatism, typhus and typhoid fever. In the latter it readily caused toxic symptoms, namely, jaundice, hebetude, icteric urine, albuminuria and hæmogl binuria. It should not be given in larger doses than 12 grs., and only once in eighteen or twenty-four hours, and not continued for more than a few days. If these precautions are neglected, fatal symptoms may be rapidly induced. Doses of 3 or 4 grs. have been eiven to children.

METHACETIN, OR PARA–ACETANISIDIN.

This is the latest of the antithermic drugs. It occurs as a slightly reddish powder, of a slightly bitter taste, soluble in warm water, but less so in cold water, very soluble in alcohol. It is an efficient antipyretic, causing a fall of three to five degrees in a few hours and frequently profuse perspiration. It may produce collapse, but so far no cases of vomiting, tinnitus aurium or erythema have been reported.

It is markedly poisonous to rabbits, doses of 45 grs. having produced convulsions and death. Its action seems to be similar to that of antipyrin. No hæmoglobinuria has been noticed.

We will now consider briefly the relative values of the internal antithermics:

The superiority of the recent antithermics has, since their discovery, led to the complete abandonment of the use of *salicylic acid* and *quinine* in fevers, except where they exert a specific action.

Kairin, on account of its dangerous, depressing action on the heart, and its destructive effects on the blood, has never been used to any considerable extent.

Thallin, although a prompt and powerful antipyretic, has so often produced violent chills, cardiac depression and gastro-intestinal irritation, that its use has steadily diminished.

Experience of *Methacetin* is still limited, but its poisonous action on animals and its tendency to produce collapse in man do not recommend it.

Pyrodine, as an antithermic, appears to be more prompt, powerful and prolonged in its action than antipyrin, acetanilide or phenacetine, but it also surpasses them in its ability to produce sudden toxic effects, and is especially dangerous in typhoid fever.

A comparison of antipyrin and acetanilide shows the following points of difference:

ANTIPYRIN.	ACETANILIDE.
Action more rapid, but more transitory.	Generally more prolonged and powerful.
More diaphoretic.	More diuretic.
Depressing after-effects.	Stimulating.
Gastro-intestinal irritant.	Non-irritating.
Easily toxic.	Rarely toxic.
Large dose.	Small dose.
Expensive.	Cheap.

These results are by no means uniform, but are sufficiently so to cause a general preference for acetanilide in febrile cases.

Phenacetine greatly resembles acetanilide in its physiological action and therapeutic effects, and so far as present experience shows is equally effective and even less liable to cause disagreeable or toxic symptoms.—*Boston Medical and Surgical Journal.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

Thomas F. Wood, M. D., Wilmington, N. C., } Editors.
Geo. Gillett Thomas, M. D., " }

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* The Carolinas. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* Journal, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* Thomas F. Wood, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

THE EXAMINATION OF DRINKING WATER FOR IMPURITIES BY WASHING WITH ETHER.

We noticed in the August Journal a contribution in the *Sanitarian* (Sept., 1889), by Dr. Theo. Deecke, pathologist in the New York State Lunatic Asylum at Utica, on a rather novel method of detecting the actual contamination of drinking water by offensive or harmful ingredients, particularly if they are at all odorous. It is possible by this method to recover by washing large quantities of water with ether—to recover urine, for instance, so that the odor can be detected, thus making the most practical, if not the most delicate test, enabling us to make an object lesson to apply to skeptical violators of sanitary practices, far more potent than stating parts by million of albuminoid ammonia. The average countryman could not readily grasp as much chemistry as is involved in the expression above, but he can trust his nose to detect urine.

Now, as to the process itself and its details: Two gallons of water are taken, for example, from a suspected well. One specimen is acidified by the addition of a small quantity of sulphuric acid, the other alkalinized by the addition of a small quantity of liquor potassæ, and both allowed to digest over a water bath for a few hours.

Each specimen is now agitated with about two pounds of sulphuric ether for a few days; the ether is separated and evaporated, and the residue, short of complete evaporation, is retained for chemical and microscopical examination.

Without the proper equipment to recover the ether this examination is expensive, but it is not at all tedious in its details, neither does it require any great amount of expert chemical knowledge.

The originator of the process says of the finished produce after the evaporation of the ether:

"Now, in any case where there existed a privy or sewage contamination of the water, this will be rendered at once perceptible in the residue by its odor, which, in the concentrated form of volatile and aromatic compounds, is very characteristic of its source and cannot be mistaken."

The final test of the toxicity of this ethereal extract of water is mentioned: "In one case the ethereal extract was from a well of water in the eastern part of Utica, near the streets not provided with sewers. The well was located on premises occupied by a family of nine persons, of whom eight at the time had been suffering for weeks from a severe attack of malarial fever, which, in two of the cases, had assumed a typhoid character. A few drops of the watery solution of the mixed extract injected into a rabbit weighing two pounds and eleven ounces, killed the animal within a half hour. In another case, where a rabbit of about the same weight was killed within two hours and a mouse in eleven minutes, the extract was from the water of a well on a farm situated not far from a barn in which cows and horses were kept, and a heap of manure. On the farm at the time was a local epidemic of typhoid fever, with two deaths—a fact which led to the examination of the water. The ethereal extract in this case contained, besides crystallizable alkaloids, fatty acids, and volatile aromatic compounds, a remarkable quantity of benzoic acid."

He says further: "The products of the ethereal extract, after the methods described above, are worthy of being investigated more scientifically. Some of them apparently will be found to belong to the class of the so-called ptomaines or cadaver alkaloids, the chemical nature and physiological action of which recently have become the subject of closer study."

Prof. F. P. Venable, of the University, says in a private letter, after some preliminary applications of the ether extraction for suspected water:

"I can see the value of the ether test for the untechnical. It has a decided value for the technical or so-called expert persons also, as it alone points out directly the source of contamination, and points it out unmistakably. Most other tests leave you large scope for such inferences as your frame of mind may suggest."

SENN'S SPLINT FOR FRACTURES OF THE NECK OF FEMUR BY IMMEDIATE REDUCTION AND PERMANENT FIXATION.

We have been greatly interested in a new device introduced by Dr. Senn, of Milwaukee, for the treatment of fractures of the femur. Every one who has had experience with such cases must receive with interest any method that promises better results than we have obtained from the long splint of Physic, the weight and pulley extension of Daniell and his more modern imitators, Smith's anterior splint, Hodgson's modification of Smith's splint, and numberless devices one would have a very remarkable memory to retain.

Dr. Senn, in order to determine the reason of the failure of the femur to unite when fractured, made experiments upon cats, artificially fracturing the femora within the capsule. This experimental work he contributed to the American Surgical Association, undertaken, as he writes, "for the special object of demonstrating, if possible, that bony union after intra-capsular fracture is so seldom obtained, not so much on account of the anatomical peculiarities of the part involved in the fracture as the inefficient treatment which is usually resorted to in its treatment."

"Twenty-three fractures in so many different animals thus produced were treated on the expectant plan or by simple fixation with a plaster-of-Paris dressing. The animals were killed from four weeks to three months after fracturing the bone, and the seat of the fracture was carefully examined in every instance, but in none of them was I able to find any evidence of bony union." The best result he got was pseudo-arthrosis. He finally resorted to drilling a hole from the trochanter major through the entire length of the neck and well into the head, and fastening the fractured parts together with aseptic bone or ivory nails. He did eight of these operations. In the two cases he quotes the bony union was complete.

These experiments led to the application of the principle of early reduction and fixation after a method of his own devising, as follows: The patient is made to stand on the uninjured leg upon a stool supported by an assistant on each side. He is previously dressed in well-fitting knit drawers and thin stockings, the plaster dressing being applied upon the injured limb above the knee. If auto-extension is not sufficient to reduce the limb to the same, or nearly the same length, some extension is applied.

Following Dr. Senn's very logical development of the subject, we are prepared to understand that it is not to senility alone that we are to account for the non-union of the neck of the femur in fractures within or without the capsule, but simply to lack of apposition of the fractured ends of the bone, for in the cases in which apposition was certainly accomplished by means of ivory pegs, union was bony and complete.

Dr. Senn's difficulty in applying the practical test of his discovery to the femora of the human subject was not so easy, and it all hinged upon his ability to apply such force to the separated ends, or some other device whereby apposition would be accomplished. The plan was devised: the fracture is made out to be of the neck of the femur; plaster bandage is applied above the knee of the fractured limb, the patient standing on the unfractured limb, upon a stool, firmly and steadily supported in the erect position. If reduction is not completed by auto-extension, sufficient traction is made to make the fractured limb as nearly as possible the proper length. It is well to consider that this position is somewhat irksome, and a stimulant might prevent fainting. A splint, consisting simply of a thin rod of a iron stout enough to support, is previously prepared. It should extend to the false ribs, and above the knee. It must have an arch over the trochanter, and be provided with the thinner straps of iron, riveted at right angles, four above and four below the arch, bent so as to apply to the contour of the thigh and body. Into the arch a screw is adjusted, to which is applied a very soft pad to cover the trochanter. The plaster bandage is now continued so as to imbed the splint, except over the trochanter, and it is carried around the body and down the thigh on the other side, united by a spica. When completed the patient is lifted into bed and allowed to remain twenty-four hours for the plaster to dry.

When the plaster is thoroughly dried, the screw should be put in position, firmly setting the pad against the trochanter, the object of which is, obviously, to force the fracture in apposition and keep it there. Before its use the skin over the trochanter should be prepared by bathing with dilute alcohol, and it should be daily watched lest excoriation result from continued pressure. Another point to be observed is, that the axis of pressure is not directly in the line of the horizontal axis of the pelvis but a little behind it.

After the patient has been securely put up in this apparatus he may be lifted from his bed day by day and allowed to walk around on crutches. The plaster, of course, prevents him from sitting down, hence the necessity of helping him in and out of bed. The great advantage of providing this daily exercise must be appreciated by those who have had cases of fracture of the neck of femur, one of the great difficulties being to prevent depreciation of health and bed sores. When one looks back upon the dreary months of treatment by the long splint, the irksomeness and depreciation of health resulting from constrained position, sloughs on the heels and the sacrum, the great inconveniences of relieving the patient's bowels without soiling his clothes, and then the almost certain resulting short limb and broken health, any plan of treatment which promises better should be welcomed and thoroughly tested.

The advantages are as follows: The patient is afforded daily exercise; his chances for a bony union of the fracture and consequent recovery with smallest amount of shortening is secured; his total amount of confinement in the apparatus varies from 75 to 90 days; and, lastly, the splint can be easily made by an ordinary blacksmith with little instruction, and the skill necesary to apply it is not great.

The writer of this has just treated a case of fracture of the neck of the femur by this method, in the person of a patient who showed marked signs of senility, who recovered after seventy-one days of confinement in the splint, with almost no shortening and a perfect bony union. We have written so much about Dr. Senn's new treatment, not because our one case would serve as a sufficient substantiation, but to add to Dr. Senn's cases reported in the *Journal of the Medical Association*, and because it deserves at the hands of the profession a thorough trial.

ANTIPYRIN IN DIABETES INSIPIDUS.—Since the publication of a note by Eichhorst, who reported the case of a man, 38 years of age, suffering from diabetes insipidus, in whom the daily amount of urine was reduced from 13 quarts to normal by the administration of 75 grains of antipyrin daily, the value of this remedy in diabetes insipidus has been the subject of considerable discussion, and in the *Therapeutic Gazette* for June 15, 1889, we alluded, in discussing the value of antipyrin in the latter affection has been still further strengthened by the report of three cases published by Dr. M. Opitz in the *Deutsche Medicinische Wochenschrift* for Agust 8, 1889. These cases show that after the prolonged but fruitless employment of numerous other remedies the subjective symptoms of diabetes insipidus, as well as the amount of urine eliminated, yielded to the administration of antipyrin. In one of these cases a permanent cure was said to be obtained; in another the cure persisted some time after the suspension of the drug; while in the third case the amount of urine returned to its original volume after the cessation of the use of antipyrin, but was again reduced to normal when the drug was readministered. With this reduction in the amount of urine secreted there was decrease in thirst, improvement in the general feelings, increase in the body-weight, and undisturbed sleep returned. These cases seem to show that the result was directly attributable to the antipyrin, for in one case the disease had lasted more than twenty years, and had been rebellious to the most varied forms of medication, while in another the amount of urine eliminated daily reached the enormous quantity of 16 quarts, and was yet cured by the use of the drug.—*Therapeutic Gazette.*

REVIEWS AND BOOK NOTICES.

THE PRINCIPLES AND PRACTICE OF SURGERY. By John Ashhurst, Jr., M.D. Six Hundred and Forty-two Illustrations. Lea Bros. & Co., 1889.

This, the fifth edition of this standard work on surgery, has been thoroughly revised and amended, and at the same time kept within the limit of 1,114 pages. Few text-books on surgery are so well-known to medical students of this generation as this one, and its popularity is due to the conciseness and clearness, and to the proportionate treatment which such a wide range of subjects receive.

It is very noticeable that the author has modified his doubts as to the superiority of the antiseptic method in treating wounds. He says: "While I cannot subscribe to the extravagant laudations which this plan of treatment receives at the hands of its more enthusiastic advocates, I believe that, when used with judgment, and, if I may be pardoned the expression, when *diluted with common sense*, it is capable of affording very valuable aid to the surgeon. I have not, indeed, found any diminution in the mortality after operations by its employment, but I find that the average period of convalescence is shortened; that the violence of the traumatic fever and the frequency of secondary fever are both lessened; that, upon the whole, the comfort of the patient is promoted; and that the labor and anxiety of the surgeon are materially diminished. For all of which I am duly thankful."

This new edition is well worthy to supplant its predecessors, and will be more essential than ever, especially to those students who have made it their guide and reference book.

A TEXT-BOOK OF ANIMAL PHYSIOLOGY. With introductory chapters on general biology, and a full treatment of reproduction, for students of human and comparative (veterinary) medicine and of general biology. By Wesley Mills, M.A., M.D., L.R.C.P.,) Eng.) With over 500 Illustrations. New York: D. Appleton & Co., 1889.

The author has outlined his conception of what a text-book of physiology should be in his preface. He sets forth that the comparative method, introducing the teachings of embryology and of the welding principles of evolution, is as necessary for human physiology as it has been for Zoölogy. Another method he strenuously objects to, that of speaking of certain conclusions, for various organs, as though they applied to these organs in whatever group of animals found, or, at all events, for man, no matter whether the species of the animal that had been experimented upon.

It is one thing to be a physiologist, but quite another to be able to produce a book within such a compass as to make it desirable as a text-book for medical students, and so far as we are able to judge the author has succeeded in the task which he has set for himself so well, that those interested at all in such a subject, be he medical student or general reader, would be carried along by the absorbing topic.

After describing biology in general terms, the cell and unicellular plants and animals, he uniquely inserts a section on parasitic organisms, for here, as in surgery and general medicine, we are obliged to acknowledge that bacteria are the "enemies of the constituent cells of the tissues of the highest animals."

The section on reproduction is given a place in the first part of the volume, and has many reasons in its favor, especially if the student had previously had a course in general biology.

The evolution theory of Darwin, as modified by Cope and others, has a stronghold on the author, and hisdiscussion of it under the head of "Organic Evolution Reconsidered," only shows that, however much light we can get by using the Darwinian theory as a working hypothesis, so far as a vaunted essential principle, its advocates are not at one about it.

A marked feature of the book is that at the end of each subject there is a "Summary" in which the author brings together the legitimate facts, divested, as far as possible, of theory, and is most useful and helpful. The method, too, of "Special Considerations," outlining the subject, clarifies in a good degree the tenor of the subject discussed.

The illustrations are all good, and are most clearly brought out by admirable press work, and the letter-press is such as we usually get from "the Appletons" in their best books.

The appendix of the work considers animal chemistry in particular, the whole volume concluding with an index which reviewers always like to see fuller and more analytical.

Our impression is that the author has proven that there was another text-book on physiology needed, and by making in some respects a new departure in teaching, and by keeping distinctly apart what is known and ultimate, from the crude and speculative, he has helped the medical student. Physiology taught in this way is not at an early day thrown over by the physician, but is made a basis upon which he may build therapeutics and pathology with some satisfaction as he advances in his career of progressive experience.

OPHTHALMOLOGY AND OPHTHALMOSCOPY FOR PRACTITIONERS AND STUDENTS OF MEDICINE. By Dr. Hermann Schmidt Rimpler. Translated from the German and edited by D. B. St. John Roosa, M.D., LL.D., etc.

This work is a translation from the German, and as such is remarkably free from ambiguity of expression. It is divided into four parts, each comprehensive in its details. The book is well illustrated and the plates representing the ophthalmoscopic appearances of the fundus in health and disease are creditable in execution and accuracy of description. Part First is devoted to general observations on examination, treatment, errors of refraction and accommodation. The use of antiseptics in eye surgery is commended. The mathematics of the eye are presented in a simple and lucid way, though the objection might be made that the work would have been more attractive to the general practitioner had this section been placed nearer the end of the volume.

Errors of refraction and accommodation are fully explained, and the chapters on amblyopia and aneurysm are made interesting.

Part Second treats of ophthalmoscopy, diseases of the optic nerve, retina, etc. The theory is advanced by the author that in cases of papillitis, or choked disc, increase of intercranial pressure from tumors, new growths, cysts, etc., forces the cerebro-spinal fluid into the lymph spaces of the optic sheath, this causes œdema of the lamina cribrosa which results in stasis of lymph passing from the fundus. The optic nerve may be first affected by the œdema or the vessels may first be obstructed and produce venous stasis, which is followed by œdema.

In the treatment of glaucoma by iridectomy in order to prevent or limit prolapse of the iris, Wecker's method is recommended. A Graefe knife, not too narrow, is introduced, as in the operation for extraction, about one-half a millimetre from the corneal limbus above, counter-puncture is then made and the knife carried upward until about two-thirds of the entire flap incision is completed and only the upper third remains. The knife is then slowly withdrawn. The bridge of tissue left in the upper third prevents prolapse of the iris. A trial of sclerotomy is advised before iridectomy in absolute glaucoma, glaucoma hæmorrhagicum, glaucoma simplex and chronic nflammatory glaucoma when the field of vision is narrowed down to the vicinity of the point of fixation. Among the non-operative measures the use of eserine receives some praise.

In cataract operations iridectomy is recommended in both Graefe's scleral incisions and the flap incision in the corneal limbus. The modern flap operation, without iridectomy and with the use of eserine, is mentioned, but not particularly recommended. In this connection it is interesting to note that both the author, and lately von Graefe, claim that in the modern operation of flap extraction without iredectomy the number of anterior synechias from prolapse of the iris during the period of healing is considerable. Where possible, the upward incision is recommended in cataract extraction for manifest reasons. Pagenstecher's method of extraction of the lens in its capsule is described, and the editor notes a method of his own in which this lens is dislocated with the back of the knife while making the section. No instrument but the knife making the section enters the eye. However desirable the removal of the lens in its capsule may be with the view of preventing secondary cataract, the skill necessary to detach the capsule from the ciliary body and the risk of loss of the vitreous must limit the operation to the most expert ophthalmic surgeons.

Diseases of the conjunctiva, cornea, iris and ciliary body are fully described. The use of strong solutions of nitrate of silver in the early stages of conjunctivitis blennorrhoica is cautioned against by both the author and editor, while nearly every surgeon at the present time recommends their use in varying strengths. Jequirity is highly spoken of in the treatment of trachoma and pannus.

Part Fourth treats of diseases of the ocular muscles, orbits, eyelids and lachrymal apparatus.

The book is handsomely bound, attractive in appearance, printed in clear type, and will prove a valuable addition to the library of the general practitioner. D. A. C.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by chromolithographs and fine wood engravings. Edited by Alfred H. Buck, M.D. Volume VIII. Containing an Appendix (523 pp.) and a general Index (197 3-column pp.) William Wood & Company, New York.

The completion of this great work with this eighth volume makes good the early promise of the accomplished editor. The whole medical world has been made tributary to its pages, and the medical profession is now ready to express its satisfaction at so successful a finishing.

Completing the last letter of the alphabet in 73 pages, an appendix follows in alphabetical order, the whole concluding with a triple-column index of nearly 200 pages.

The ease with which a busy man can find anything he wants in these volumes makes them specially attractive and useful, and then the contributions are well up to the best and last knowledge of the subjects. Even in well-known and thoroughly treated subjects of anatomy and botany, we find here material for which we look in vain in some of the best works of the day.

As we have taken occasion before to say, Dr. Buck, in his editorial management, has done the profession of this country great good in bringing to light writers of good ability, and a goodly number of them, demonstrating what would hardly have been suspected, that there are many more writers able to instruct, masters of good style and thorough information, than even that large body who are already known by their contributions to medical journals.

The "Reference Hand Book" now becomes indispensable in every private library of any pretensions, and no doctor can afford not to make it his daily companion.

A Clinical Atlas of Vanereal and Skin Diseases, Including Diagnosis, Prognosis and Treatment. By Robert W. Taylor, A.M., M.D. Philadelphia: Lea Brothers & Co.

We have before us parts 7 and 8 of this elegant work. We have made mention of it from time to time, as it has been sent to us, and always with embarrassment because of the rivals in the field.

The best portfolios of Europe have been drawn upon in illustrating this work, and in this way one gets what would otherwise cost him an investment in such costly works as Hebra's Atlas and Hutchinson's Illustrations of Clinical Surgery. American lithography seldom equals the German and English examples, and until our lithographers are willing to take as much pains as the Germans, notably, the pictorial art as a means of diagnosis, must fall short of its purpose. The illustrations in this handsome work vary in merit, and too high praise cannot be given to some of it. The letter-press and paper are luxurious, but above all, the text is highly practical and instructive, fulfilling the promise of the author that he would make it a work suitable for practical men, giving a small share of space to pathology. America has of late added some excellent volumes on dermatology to the general fund, and none will be received with more satisfaction than "Taylor's Atlas."

The completed work can now be purchased from the publishers in parts at $20, and those who have the unbound numbers can have them bound by the publishers, at $9.00 for half-Russia, and $8.00 for half-Turkey, they paying expressage on way.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. (1) ON THE SURGERY OF THE KNEE-JOINT. By C. B. Keetly, F.R.C.S. (2) AIDS TO OPHTHALMIC MEDICINE AND SURGERY. By Jonathan Hutchinson, Jr. (3) BACTERIOLOGICAL TECHNOLOGY FOR PHYSICIANS. By Dr. C. J. Salomonsen. Vol. IV., No. 2.

This is the November issue of Wood's Monographs, and either essay is worth the price of the number, and would so be doubly esteemed by any one who was at the time especially interested in the subject of which it treats.

In the first essay is contrasted the surgery of the knee-joint, as at present in vogue among the best surgeons of the day, and of that of ten years ago. The author has selected the subject believing that none shows better the progress in surgery. A case of knee-joint disease was a matter of gloomy foreboding, and when the patient asked about the time in which a cure was to be expected, he could only expect to get well after five, or even ten years, and likely as not end in amputation. Of 97 cases of excision of the joint collected by Bryant, 27 died. The surgery of the day, though, deals with a knee-joint under antiseptic precautions, opens the joint by sawing through the patella or dividing the tendon, removes the unsound tissue, dresses the wound with iodoform, provides abundant drainage, and looks for a recovery with a fairly good limb in the course of a few weeks, provided the patient is not a consumptive. The triumphant tone of this article borders on brag.

The second article is exceedingly valuable for diagnostic and therapeutic hints about a class of diseases usually ignored by the general practitioner because, may be, there are specialists on this line. Let such keep this excellent Monograph near them for consultation, and they will be able, following it, to render valuable service. So much time is lost generally in doing the right thing for the eye, even the routine service of dropping a solution of atropia in the eye, that the laity have come to regard eye diseases as specially destructive or incurable.

Bacteriological Technology is a subject of growing importance, and one which the general practitioner can make some headway in, now, owing to the substantial knowledge of much of the detail, as set forth in this Monograph and others.

THE AMERICAN ARMAMENTARIUM CHIRURGICUM. Geo. Tiemann & Co., New York.

For $1.00 and express freight added, Messrs. Tiemann & Co. offer to send to any physician a copy of this large quarto of nearly 900 pages. It is not a mere catalogue, but even that in this age of the multiplication of delicate and useful instruments, if well classified and explained, would be a most important addition to our knowledge of practical surgical mechanics, but it is almost a complete operative surgery in itself. There is no intimation of who the editor of this volume is, but he has succeeded in making selection of the very gems of surgical descriptions from all medical literature. With no other surgical help than this book, the general practitioner, or even the specialist, would not be at a loss for suggestions on any branch of surgery, the pictorial aids being of the best sort, the majority of them being a long ways above the hackneyed old stock engravings of some of the more pretentious surgeries. This volume must have been produced at a very large cost, and the price is merely nominal.

THE MEDICAL VISITING LIST for 1890. Philadelphia, Pa.

This visiting list has been thoroughly revised, so as to contain all the novelties of new remedies, and an alphabetical table of diseases with appropriate remedies, a complete pocket remembrancer of useful things, and all this in addition to matter which is standard in such lists. It is suited to all methods of book-keeping, and seems to lack nothing to make it complete.

THE PHYSICIAN'S VISITING LIST for 1890. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut St.

This is the 39th year of this old stand-by. Its "Poisons and Antidotes," its "Dose Tables," its list of "New Remedies," specially compiled for it, its "Aids in Diagnosis and Treatment of the more Common Ocular Affections," its "Diagram Showing Eruption of Milk Teeth," its "Dose Table," its "Disinfectants," condensed from the conclusions of the Committee of the American Public Health Association, and very much else not named, brings the standard up to the freshest current of knowledge, and furnishes, compactly, aids to memory, and space for records. All very valuable!

* * *

A NEW TREATMENT OF STERILITY.—In an article upon "The Obstacles to Fecundity in the Human Species" (*Journal de Medicine*, May 16, 1886), Prof. Pajot says: "Has the woman an anteversion? Say to her: 'Have the kindness, if you please, every evening when you expect to have intercourse with your husband, not to urinate for five or six hours. Don't ask why; that doesn't concern you. Only don't urinate. You wish to have children? Yes. Well, then, urinate after intercourse, and not before.' If she has a retroversion, say to her: 'Madame, when your menses are over eat plenty of eggs and plenty of rice. Take every night for three or four days a little pill which I am going to give you.' (This little pill contains simply a third of a grain of extract of opium.) 'Manage not to go to stool for three or four days. Then have intercourse with your husband, but don't go to stool till afterwards.' You will say that all this is very ridiculous; yet the whole process is entirely rational, and is based upon anatomical and physiological principles."—*New Orleans Medical and Surgical Journal.*

CORRESPONDENCE.

STRANGULATED HERNIA REDUCED BY ASPIRATION AND TAXIS.

SELMA, N. C., November 14, 1889.

Messrs. Editors North Carolina Medical Journal:

GENTLEMEN :—On the night of February 4th, 1889, I was called to James Spencer, a young farmer, about 25 years of age, living nine miles from my office; found him with a strangulated hernia of the left side. The tumor was about the size of a large cocoanut. He had had a tobacco poultice on the tumor for four hours. Gave him half a grain of morphine, hypodermically, immediately. I tried chloroform, elevating his hips, in fact, almost standing him on his head for two hours, with taxis at intervals of ten minutes.

At the end of two hours, seeing my patient getting worse, and knowing that every hour gave him fewer chances of recovery from an operation, it would have taken three hours to procure assistance necessary to operate; and, my patient having just recovered from a spell of typhoid fever, I concluded to tap the tumor, accordingly I took a hypodermic syringe needle and tapped it. In a few minutes I had the satisfaction of seeing a few wrinkles on the tumor; and, in ten minutes, it was reduced to about the size of a small orange.

I now tried taxis once more, but could not reduce it. Put him to bed with his hips raised about eight inches higher than his shoulders. Ordered towels wrung out of hot water to be kept on the tumor constantly until my return. Left one-fourth grain of morphine for him to take, should he have pain again, and left for home.

I returned the next day about 11 o'clock, a. m., found the tumor a little larger, but soft; he had slept about six hours in my absence, and had not taken the morphine. I again tried taxis and in a few minutes reduced it.

He was at work the next day, and in four days visited my office to have a truss fitted.

The only thing about this case out of the usual way of treating hernias was the tapping with the hypodermic needle.

Very respectfully,

RICHARD J. NOBLE, M.D.

CURRENT LITERATURE.

THE ADVANTAGES AND DISADVANTAGES OF SULPHONAL.

The advantages of sulphonal are :

1. The ease of administration, being devoid of taste or odor.

2. The freedom from producing a sulphonal habit.

3. In doses of 20 to 30 grs., sulphonal is a safe, and, in the main, a reliable, hypnotic, free from unpleasant concomitant effects, and usually from all undesirable sequelæ.

4. The sleep induced is relatively natural and quiet.

5. It does not affect the pulse or respiration.

6. As compared with amylene and paraldehyde, it is the superior hypnotic. The great disadvantage of paraldehyde is that it requires constant increase in the dose, which is not the case with sulphonal. According to Fröhner, the former drug exerts a destructive action on the blood corpuscles, and other observers state that occasionally it produces symptoms resembling acute alcoholism. As compared with chloral, its action is not so profound, but the duration of the effect is longer. Amyl-hydrate is uncertain and dangerous, as Schlös's cases prove. Furthermore, the smell and taste of most of these drugs is so abominable that patients cannot be induced to swallow them. The majority of them also upset the stomach.

7. That in the opium habit it appears to exert a beneficial effect. We know of several cases in which the drug was particularly fortunate in its results. Further trials in this direction are needed to fully confirm existing evidence of usefulness in this affliction.

8. That, so far as known, it does not affect either the renal or cutaneous secretions, nor does it produce constipation.

The disadvantages of sulphonal are :

1. Its difficult solubility and bulk.

2. Its slowness of action.

3. The liability of its action to be prolonged longer than desirable in some few cases. This seems to be due to an accumulative action, especially liable to occur in elderly people.

4. The unpleasant secondary effects it produces in some instances, such as emesis, headache, nausea, exhaustion, sometimes depression, and occasionally incoördination of muscular movements.

From these facts we may safely conclude that sulphonal is, in the main, a reliable hypnotic, if used with the same care and caution that should be observed in the administration of all drugs, both old and new. In elderly persons, especially, the dose should be prudently guaged and administered with the same carefulness that morphine would be used. Where pain is a prominent symptom, sulphonal does harm rather than good, producing, as a rule, a condition of wakefulness and of excitement, instead of the wished-for sleep. In diseases of the heart or of the vessels, it is well to use the drug guardedly.—*American Lancet.*

NECESSITY OF CAUTION IN PRESCRIBING FOR UNMARRIED PREGNANT WOMEN.

At a recent meeting of the Allegheny County Medical Society, Dr. Kearns spoke of the necessity of caution in prescribing for unmarried pregnant women. He said: "In March last, a young woman visited me for the purpose of ascertaining whether or not she was pregnant. I examined her, and, concluding that pregnancy existed, told her I could do nothing for her. Some time later she called again for certainty in the matter. I examined only her breasts, and pronounced her pregnant. A few days after she aborted, fell into the hands of the police, and was removed to the West Penn Hospital. At her hearing I was called as a witness. The charge was that she had taken pennyroyal pills, sold her by a druggist. Both were acquitted. I desire to emphasize the fact that had I, at the time of her second visit to me, but introduced my finger into her vagina, or had I given her medicine of any kind, I would have made myself liable, perhaps, to arrest, certainly to newspaper notoriety, as accessory to the abortion."

Dr. Kœnig: Dr. Kearns is over-cautious. I conceive that an examination under such circumstances is proper and safe. The same is true of giving any medicine that may be indicated in the case by any ailment that accompanies the pregnancy. The druggist puts on file and preserves the doctor's prescription; this is his safeguard. The druggist, however, who sells these pills, or any abortive, exposes himself to unpleasant consequences.

Dr. W. C. Shaw: I keep in my office an assortment of fœtuses in alcohol, and explain to my friends the growth, life, etc., instructing them that, no matter how early they may destroy it, this constitutes a destruction of life. This has a powerful moral effect in preventing the induction of abortion.—*N. O. Med. and Surg. Jour.*

A PERVIOUS URACHUS.

Dr. P. L. Murphy, the well-known Superintendent of the Western North Carolina Insane Asylum, at Morganton, writes:

"Last June, while out with a party surveying some land the Asylum had bargained for, I noticed a negro boy helping the surgeons who had a peculiar rocking walk, with curvatures of the bones of the thighs and legs, a large misshapen head and other indications of rickets and scrofula. Just as I was leaving he stopped and asked me to examine him. His shirt and pants were wet from the navel down to the knees, and gave out a strong ammoniacal odor. Several days afterwards he called at my office, when I gave him a more careful examination. There was a fissure running from the naval to the pubes, which I at first thought might be an epispadias, but, pulling the sides of the fissure apart, I saw that it was simply a fissure three-quarters of an inch deep, the bottom and sides being moist. There were also smaller fissures running in different directions, varying from one to three inches in length, giving the abdomen in this region a wrinkled appearance. There was no other sign of a navel. By examining with a lens, I found the orifice of the *urachus*, which I soon was able to make out with the naked eye. In size it was not longer than a pin's head. A whale-bone bougie passed through it into the bladder without difficulty. At times, the boy said, the dribbling through this passage was small; at others, most of the urine apparently passed this way.

"As the case was entirely new to me, and I know the lesion is very rare, I thought it might interest the readers of your JOURNAL.

ABSTRACT OF AN ADDRESS ON THE MEDICAL STAFF OF THE CONFEDERATE ARMY AND NAVY.

By F. Peyre Porcher, M.D., of Charleston, before the Association of Ex-Confederate Surgeons of South Carolina at their Annual Meeting in Columbia.

* * * * * * * *

It is becoming and necessary that a record should be kept of what was accomplished in those four years of a most bloody and disastrous war, when responsible acts often requiring the greatest personal coolness and courage were performed by men of our profession, who had been wholly untrained in the art and requirements of actual warfare. It must be noted, also, that they quietly fulfilled the most arduous, delicate and responsible duties, unaccompanied by the ordinary expedients which are resorted to to incite and cheer the soldier; they were men who it was not deemed necessary to stimulate by adventitious aids, by mention in the gazettes, by brevet ranks conferred, by commendations read at the head of regiments, or reports sent up to headquarters, when the battle ended and the records of victory or defeat were recited.

They stood in need of no such aids, artificial or actual. These were the men who would only be referred to—if fate so willed it—in the list of the casualties; and even in grave official histories of the campaigns it is seldom that the presence, the acts or the self-sacrifice of the medical staff would be recorded. In proof of which, since the war, we have seen no statement regarding the position, the conduct or the services of the medical department of the army in the great contest in which they played a most essential, if not the most conspicuous, part.

Nor did they ask or expect fame, either present or posthumous, for, conscious that, as members of a noble profession, the special duties they were called upon to execute were of a high and exalted order, the approval of their immediate commander, the confidence of the sick and wounded—these, with the support of their own conscience, must be their supreme and only ambition.

With a sphere so limited, with rewards so meagre and inadequate in comparison with those bestowed upon their military associates of similar or superior rank, we are now entitled to award them the highest credit for the unselfish peformance of duty—whether done within the walls of a hospital, to the sick or wounded soldier in his quarters, or, as was often the case, in the face of the enemy, surrounded by danger and death, and equally exposed with the private soldier to shot and shell and to death-dealing missiles from those "instruments of precision," as they were called, which sped with "damnable iteration"

"The leaden messengers that ride upon the violent speed of fire."

The surgeons and assistant surgeons, the generals and the officers lived with their men in the open fields, in trenches swept by the fire of the enemy, literally in ditches and in holes burrowed in the earth, half filled with water, from which they were sometimes in the rainy season driven out like rats. Half starved upon the coarsest food, in cold and storm and rain, exposed to every hazard—these, our brethren of the medical department, quailed not; they patiently submitted to every hardship, often with systems shattered by privation and ill-health, whilst they performed services which required skill, care and serene courage.

No extended reference can be made here to privations endured in prisons; and more than one example exists of voluntary surrender by surgeons in order that they might not be separated from their sick and wounded.

Even those in the comparative shelter of hospitals, specially those placed near to the immediate theatre of the war, had by no means light duties to perform, nor were unexposed to the dangers of the battlefield whilst in attendance upon the sick and wounded. They also were quite within range of shot and shell. Shells passed frequently over the South Carolina hospital at Petersburg. One struck within a few feet of the fourth ward; another entered the ninth, and a third passed through one of the tents provided to relieve the hospital—over-crowded with the sick and wounded. Before it became no longer tenable and was evacuated, the surgeon had to distribute the amputations—including also two resections of the shoulder—among his five assistants, and the whole of three entire days and nights, without cessation. were required to complete the work.

In our opinion no sufficient tribute has ever been paid to the matchless organization of the medical department of the Confederate Army, as represented by the Surgeon General's office; and we regret that more has not been said and earlier, in order that, before the death of that incomparable officer, Surgeon Samuel Preston Moore, he may have learned how much his services were esteemed. A native of Charleston, and a man trained in the army, with all its ideas of discipline, its rigidity and its formality, he may have contracted certain habitudes which deprived his manners—not of the repose "which stamps the cast of Vere de-Vere," for of that he had enough and to spare—but of that softness and suavity which are used in representative democracies and in all non-military communities.

Within his domain, which was a very extensive one, he had absolute power and the fit of an autocrat: the Emperor of the Russias was not more autocratic. He stood *in terrorem* over the surgeon, whatever his rank or wherever he might be—from Richmond to the Trans-Missisippi, and to the extremest verge of the Confederate States. And though appearing to be cold and forbidding, we do not think that Surgeon Moore was cruel, arbitrary or insensible to conviction. We have, ourselves, experienced some of his stern rulings, which were afterwards fully compensated for.

But where, or under what government so complicated and extensive as this, was there ever a department of the public service characterized by such order and precision ? Every paper emanating from that office was a model of dispatch and neatness; and the chief introduced various measures for the relief of the medical department, when the country was suffering privations, and in want of the ordinary necessaries of life. It will be remembered, also, that included in the sphere of his duties was the providing the medical supplies needed for the entire army, which had to be imported in great measure; and the hospitals and other branches of the service were fairly supplied with quinia, morphia, iron, chloroform and surgical appliances.

If the writer is permitted to say it here, the hospitals at Norfolk and Petersburg, under his care, were never allowed to be without these essential articles, which were purchased when needed by private contributions from friends in Charleston.

Permit us to say that in a paper prepared for Surgeon Moore near the close of the war, never issued by that officer, as Richmond was soon abandoned, occasion was taken to refer to the diseases from which the Confederate soldier proffered. Prominent among these were chronic relaxing diseases; and the following statement was emphasized—the accuracy of which some of our colleagues may justify: "The dominant fact which must impress and modify the whole course of treatment to which any judicious surgeon would subject him, unquestionably was prostration."

Exhaustion was the great characteristic, as well as the essential element, to be considered and combated: and the natural corrollary was that he was to be nourished and stimulated as far as the resources of the service permitted—and the treatment was, of course, to be modified in view of the prevalent condition just stated—with the studious avoidance of all perturbative, depressing measures, drastics, ptyalism, etc.

What was applicable to well nourished civilians would not apply to the soldier with his gastric irritability, his colliquative disease, his gastralgia, and more especially his nostalgia.

The fact being determined, it was acted upon practically: the promise of furlough was found to be superior to the whole pharmacopœia, and would literally rescue a sick or a wounded soldier from the jaws of death. We have seen them turn to the wall to die, and yet leave for their homes a few days after under the revivifying influence of hope and a return to their families and all which it implied. When it was averred that one or two died on the road, the question was asked, But how many were saved?

From this brief and imperfect description of the depressing effects produced by the circumstances which surrounded the Confederate soldier, the modification in his management became of the first importance.

The "pathology of Shakespeare"—as the learned and elegant Watson has called it—when he speaks of "rasing out the written troubles of the brain" and "ministering to a mind diseased," was therefore required to be observed by the surgeon with the greatest advantage. For, superadded to the prostration and general asthenic state which we have asserted to be the dominant feature of our sick soldiers, there was also very generally extreme apathy as to results, however sombre might be their complexion, or even fatal to their hopes, wishes or lives.

The Confederate soldier resigned himself to his fate. Once that it was decided that a return home was impossible for him and he must remain in hospital, the physiognomy of his condition was admirably expressed by the phrase *poco curante*, which he carried in every feature of his face, in his gait and in his bearing. When he entered the service, whether from compulsion, or, as in nearly every instance, urged by a noble patriotism, his mind was prepared for any fate; and he went forth having adopted the desperate maxim of Mezentius: "*Jam venio moriturus.*" The scenes of danger also through which he has passed had strung his nerves to so high a pitch of tension—so much higher than mere illness, which is far below the battlefield in the stirring intensity or the elevation of the emotion it excites—that he was not impressed by his present peril, however imminent might be the fate which it threatened. He was therefore languid, careless and indifferent, and his mind needed to be aroused and stimulated.

As a striking proof of the apathy of the soldier when he takes asylum in hospital, it may be stated that on the occasion of a visit by General Lee to the farm near Petersburg, to which the sick and wounded had been removed, he visited many of the tents. There was not the slightest excitement or enthusiasm manifested; no exclamation or apparent recognition of their beloved leader by a single individual. Politeness compelled us to occupy a singular rôle, and in every instance to announce the presence of their commander-in-chief and to introduce him to his soldiers.

What a contrast to their reception on every other occasion, as when surrounded by his Generals he rode in review; or when, all life and energy and courage, they were ready for any enterprise—and meeting the same man in the forefront of the hottest battle—with a wild cheer of recognition, they would turn his horse aside that he might not encounter the danger which menaced them.

There was no one so uncomplaining as the Confederate soldier. Every surgeon who has seen active service will confirm the truth and accuracy of a picture drawn without exaggeration. In your daily rounds to offer him relief, he gazes upon you, but does not complain that you pass him by, asks for nothing, does not bemoan his fate, nor murmur at the insufficiency of either food or attendance. He may lay sick under a broiling sun, in a heated tent; or wounded, he may languish in a hospital, amid the dying and the dead, surrounded by everything to appal even well men—

* * * * * * * * Crudelis,
Ubique luctus, ubique pavor,
Et plurima mortis imago;

yet the mere stripling possessed his soul unterrified, and uttered neither cry nor groan. There was always a courage and a resolution mingled with his apparent indifference, which has extorted our admiration, and has compelled us involuntarily to recall the noble description of the invincible Cato: "The whole world was subdued, save the intrepid soul of Cato."

Omne terrarum subacta,
Preter atrocem animum Catonis.

In this display of his courage there was an inexorable sternness almost amounting to atrocity.

When the soldier, leaving friends, kindred and home, delivers up his life for his country, he has paid the dearest tribute which man can offer, and there is a moral sublimity in the act which ennobles the very poorest. In every age the sacrifice has been immortalized in verse and song, and the divine Dante says of him—

"He goes in quest of liberty—which is so dear,
As he knew best who gave his life for it."

Liberta va cercando, ch'e si cara,
Come sa chi per lei vita rifiuta.
—*Charleston News and Courier.*

Portrait of Dr. Cornelius R. Agnew.—The portrait of this distinguished physician and philanthropist, which has been issued by the New York Academy of Medicine, is an admirable likeness, and one that will be acceptable to the large number of his admirers all over the Union. We have a few copies of the engraving that may be had for $2.00 by making early application.

CURRENT NOTES.

Death from Glanders.—Dr. Hoffman, a German physician of 26, recently died from glanders, contracted by making mounts of diseased glands, for microscopic study. Infection was proven by post-mortem to have been effected through the mucous membrane of the respiratory passages.

Pilocarpin in Gall-Stones.—Dr. Lekarskie considers pilocarpin almost a specific in the treatment of gall-stones, basing his opinion on the results of treatment in thirty cases. He administers one-eighth grain hypodermatically once or twice daily. The effect on the pruritus of jaundice is immediate, and adds greatly to the comfort of the patient.—*Bulletin Générale de Thérapeutique.*

An Important Notice to Our Readers.—We have been surprised at the number of complaints of non reception of the Journal. We have increased our vigilance and care in the mailing room, but we are satisfied that it is due largely to the *very poor mail service we have all over the State.* Subscribers will please announce before the close of the month the non-reception of the Journal of that month, and we will send a second copy, but, after a failure of many months to make up files, we cannot promise to do so, although even then we will do our best.

Chromic Acid Poisonous as a Caustic.—Dr. William Weber, of Pittston, Pa., in *Therapeutic Gazette*, calls attention to the poisonous effects of chromic acid used as a cautery, quoting numerous German authorities, and among them men of distinction. It seems not to be generally known that chromic acid is poisonous. It is not stated what amount is dangerous, but it appears to be in cases where large surfaces have been cauterized. This writer has been in the habit of using it, following the success of Dr. W. J. H. Bellamy, in syphilitic mucous patches of the lips and tongue, and the results have simply been inimitable. We use it also in follicular pharyngitis applied pure by means of an instrument made by Snowden of Philadelphia, the acid being fused on the end of a curved spring applicator for cauterizing separate follicles, we have seen no toxic effects. The words of caution are necessary, but we would be sorry to see this valuable agent tabooed: we presume that caution in limiting it to small areas is all sufficient.

Dr. J. C. Gidney died at his home on the 2d day, October, 1889. He graduated at Jefferson Medical College, 1861.

Chas. Chadwick, Ottis R. Wyeth, Louis A. Schoen, George J. Schoen, Chas. F. Herrmann, Geo. Eyssell and Horace L. Roy, druggists of this city, were brought before Judge Worthen, to day, and each fined $500 and costs for counterfeiting a trade-mark preparation, known as Bromidia.

The Late Dr. Ricord, like many other eminent physicians, was a most benevolent man, but lacking in business capacity. When the Empire came it brought him royal favors, wealth and academical distinction; but notwithstanding his large income, which probably exceeded that of any other French doctor of the time, Ricord was constantly falling into debt, owing to his charitable disposition. He not only attended poor patients for nothing, but actually fed and housed them, and in the case of country or foreign patients he often paid their expenses to Paris. He was several times sold up, and even sent to prison while imprisonment for debt was possible. He was released by the Emperor, who paid his debts.—*Med. Record.*

Antifebrin in Quinsy.—In the *Wiener Medizinische Blätter* for August 8, 1889, Dr. W. Sahli writes that on the second day of a violent attack of quinsy he took 7 grs. of antifebrin, and within a quarter of an hour all headache and pain on swallowing or in mastication had completely disappeared. On the next day there was a slight return of pain, which was again almost immediately subdued by the repetition of the dose of antifebrin, and this treatment was continued on each reappearance of pain with the same results, until the disease had run its course. Dr. Sahli refers to twelve cases of quinsy in which 4 grs. of antifebrin likewise produced satisfactory results. The same effect was also observed by the writer in the relief of pain in angina of an epidemic of scarlet fever and diphtheria. It relieves pain in all movements of the throat, and, by rendering the operation painless, is a great assistance to gargling the throat, especially in children, while, of course, it also assists in the administration of food. Dr. Sahli does not, however, claim that antifebrin is a specific for angina or diphtheria, since the pathological processes are not influenced by its administration. He administers it shaken up in a little spirits and syrup.—*Therapeutic Gazette.*

READING NOTICES.

Succus Alterans.—Roche, Cornwall, Eng., March 20, 1889.—Sir:—I have used in my practice the preparation known as "Succus Alterans," and have much pleasure in bearing testimony to its great value.

For diseases having their origin in a syphilitic source, I believe the Succus to be the only reliable specific, for I may add that invariable success has been met with by me when prescribing the remedy in question, even after the failure of other alteratives. I shall continue to rely on the Succus in all cases I have indicated herein.

Yours, truly,
(Signed) Wm. Rd. Goodfellow,
Member Royal College Surgeons, I. S. A.

R. J. Mitchell, M.D., Thomasville, Ga., says: "I have given S. H. Kennedy's Extract of Pinus Canadensis an extended trial. I am satisfied that it is a greater medicine than it is represented to be. In gonorrhœa, leucorrhœa and gleet, it acts like magic.

℞.—S. H. Kennedy's Extract Pinus Canadensis
(White)............................ 2 ozs.
Glycerine .... ½ oz.
Aquæ................................. 6 ozs.
M. Sig.—Inject three times a day after urinating.

I also used the Dark in chronic dysentery with pretty good results. The case of leucorrhea was of eight months' standing. I hope and predict that in the near future every physician will carry a bottle of S. H. Kennedy's Extract of Pinus Canadensis in his saddle-bags.

Paris Exhibition.—W. R. Warner & Co. have received a silver medal at the Paris World's Fair, being the highest of its kind, in recognition of the following claims:

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Its action is Prompt; stimulating the appetite and the digeson, it promotes assimilation, and enters directly into the circulation ith the food products.

The Prescribed Dose produces a feeling of buoyancy, removing epression or melancholy, and hence is of great value in the treatment f Mental and Nervous Affections.

From its exerting a double tonic effect and influencing a healthy ow of the secretions, its use is indicated in a wide range of diseases.

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of all those ailments, in which deficient digestion is the direct or indirect cause of pathological conditions.

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DYSPEPSIA, VOMITING IN PREGNANCY,

CHOLERA INFANTUM,

CONSTIPATION, *and all Diseases arising from imperfect nutrition.*

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NORTH CAROLINA

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CONTENTS:

ORIGINAL COMMUNICATIONS:

Persistent Headaches, and How to Cure Them, by Julian J. Chisholm, M. D. 385
Medication by Inunction, by T. L. Booth, M. D. 394
Moist Gangrene of Both Legs following Parturition, by W. F. Faison 401
A Sand-Spur in the Chink of the Glottis for four days, by K. P. Battle, M. D. 403

SELECTED PAPERS:

On the Use of Antipyrin in Malarial Fevers, by William T. Prout, M.B., C.M. 405
The Angle of the Neck of Femur (Paragraph) 413

EDITORIAL:

Improvement in the Journal for 1890 414
Those who have Failed to Register 416

REVIEWS AND BOOK NOTICES:

A Treatise on Diseases of Nose and Throat, by Francke H. Bosworth, A.M., M.D. 417
A Hand-book of Obstetrical Nursing, by Anna M. Fullerton, M.D. 419
A Manual of Obstetrics, by A. F. A. King, A.M., M.D. 419
Essay on Medical Pneumatology: A Physiological, Clinical and Therapeutic Investigation of Gases, by J. N. Demarquay 419
Photographic Illustrations of Skin Diseases, and Atlas and Text-Book combined, by George Henry Fox, A.M., M.D. 420

CURRENT LITERATURE:

Epidemic Influenza 421
A New Advance in the Treatment of Ununited Fracture 425
Sanitaria for Consumptives 426
Progress at the University of Maryland 428
Annual Report of the Supervising Surgeon-General of the Marine Hospital Service for 1889 430
CURRENT NOTES 432
READING NOTICES 434

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ORIGINAL COMMUNICATIONS.

PERSISTENT HEADACHES, AND HOW TO CURE THEM.

By JULIAN J. CHISOLM, M.D., Professor of Eye and Ear Diseases in the University of Maryland, and Surgeon-in-Chief to the Presbyterian Eye and Ear Charity Hospital of Baltimore.

Scientific truths disseminate themselves very slowly. The well-tried and thoroughly proven have to be often discussed, and are as frequently forgotten, before they take root and give evidences of the fruit which they should have early borne. In this category is placed the medical and now well established fact, that among the many causes of most persistent headaches, eye faults are perhaps the most common; and yet, as a rule, they are the *last* to be recognized.

Headaches are acknowledged to be one of the most constant effects of systemic disturbances. It is present in all of the acute inflammatory diseases, and in most of the chronic ones. When any of the important organs of the body get out of order, the head suffers. The stomach, the kidneys, the liver, the uterus, all of them can produce headache. We know with what readiness the emptying of an impacted bowel will clear up head discomforts. The mistake made by physicians is to believe these the exclusive causes of headache.

Many of these sources of trouble to the head are fortunately readily found, and some of them are very easy of detection. But there is a very large number of head discomforts in which no acute inflammatory conditions exist, to explain the disturbance of this sensitive centre. The general health of the individual is good, no one organ seems to be out of order, the digestive apparatus is in perfect condition. The kidneys are sound, with normal urine. If there be a uterus, its presence is known only at the catamenial periods.

Yet the head is not comfortable. That omnipresent cause of general disturbance, Malaria, is invoked to account for the frequent complaining. It is found without seeking for it, and it is exorcised by frequently repeated doses of quinine. Relief comes temporarily under this treatment, as it would under any other, but the cure is only of short duration. When the malarial theory fails and some other has to be sought, too close confinement to the house, or business is suspected, and fresh air with exercise is enjoined. Good at once shows itself from this course of hygiene, but the head discomforts will return.

Then comes a bright thought on the part of the troubled family physician in his vain efforts to find a satisfactory cause for his patients' sufferings. He calls the trouble neuralgia. Under this name the patient is often willing to suffer, obtaining occasional relief by taking quinine, morphia, antipyrin, the bromides, or some allied drug. Finally it slowly dawns upon the patients that when they took medicines or open air exercise, and *stopped work*, relief came; but that when they resumed their occupations of reading, writing or sewing, these being the every day employments of the majority of the population in cities, their heads would ache. Then, from their own observation, they would propose the question to their medical adviser, whether in some way the eyes may not be responsible for much of the trouble which they have so long suffered ? Once the discovery is made, the cause and effect can be constantly traced. They soon find out that they can read, write or sew themselves into a headache. This sequence is so common that it ought to have been detected at a much earlier stage of the treatment. The degree of discomfort is always in proportion to the nervous temperament of the patient.

It is a safe rule for a physician to follow, to look to the eyes as a common cause of head disturbances when the frequent headaches of a patient are not produced by some tangible disease. As a cause of headaches eye trouble should always precede malaria, neuralgias, and such commonly attributed, but very obscure, sources of disorders; and this even when the patient's painful symptoms temporarily yield to quinine, iron or arsenic. Unfortunately, when the fault in the eye is paining the head, and is secondarily disturbing the whole body, the eye itself does not necessarily take on congestion, and is not even always painful, so that the casual observer can see in it no cause for trouble.

Many persons know that under the continued use of the eyes the head aches, but the seat of pain need not necessarily be in the eyes themselves. Fortunately, in the majority of cases it is the pain in the eyes that precedes the pain in the head. If this sequence always existed there would be less trouble in making a correct and early diagnosis.

Some patients will give as their case history, that up to a certain time they had as they supposed the strongest of eyes. They overworked them, and now they will stand no work. Since the first break-down in their eye-sight, a very few minutes of reading, writing or sewing causes the eyes to water, and burn, and produces a brow stricture with eye pains. If the work is persisted in the pain extends to the temples, then to the top of the head, and even to the back of the neck. Some refer all the pains to the top of the head, while the back of the head and the neck annoys others the most. In a few even the stomach becomes upset, and nausea follows, not because the liver or the brain is diseased, but as reflected disturbances from the over-taxed eye muscles.

Nature does wonderful work. The function of any organ is a marvel far beyond our comprehension, and the eye is one of the most intricate parts of the body. While we are lost in admiration over its wonderful mechanism, as an optical instrument, we are aware also of some of its imperfections. We find many human eyes far from perfect. In communities advanced in civilization a perfect eye is rather the exception. Nature may start them right, but school abuses soon upset them. *Near-sightedness is becoming too common an eye trouble, and has as its fruitful source the present forced education of the very young.* In these days there is no play time for children. Lessons in school and studies out of school absorb more than the day-light hours.

Brain work is known to be more exhausting than hand work, and young eyes cannot submit to this constant application without injury. There is a Society protecting children from cruel treatment· It prohibits their employment in factories. The factories which should head the list as most abusive to their general well-being are the schools as they are now conducted.

The average citizen would restrict his idea of muscular labor to the hands alone, not knowing that eye work is a perpetual muscular labor, and of a very fatiguing character. When a person is reading, sewing or writing, the small, but all important eye muscles, are as hard at work in their way as the arm muscles would be in sawing wood. They are as capable of being fatigued, and when fatigued suffer pain. This pain need not be restricted to the over-worked muscle. It draws into nervous sympathy contiguous parts of the body, and causes the so-called neuralgias of the head. An extremely common expression daily received from patients is that they have so much neuralgia that it makes their eyes pain them. When explained properly it means they have so much eye strain that it makes neuralgia in the head, and then pain in the eyes.

All eye faults (and we use this term as distinct from eye diseases) do not cause headache. By eye faults I mean a faulty form of the eye-ball, a deviation from the perfect type, by which easy focusing of the dioptric media to form clear pictures on the retina is interfered with. Good sight means an eye which can make sharply defined pictures on the retina for brain interpretation. If this be done without effort the machinery runs smoothly and without discomfort, even if kept up by the hour or by the day. There is a large class of clear, perfect looking eyes, with apparently excellent sight, but which give way under the continued use which our every day affairs demand. These eyes would never show their faults were they not pressed by continuous labor. They resemble a flaw in the wheel of a railroad car, which can and has run for many years at a

30-mile rate, and seems as good as the best, but when driven at a 60-mile speed goes to pieces. The trouble with such eyes began when additional work was put upon them, and they have given trouble ever since.

The true headache is known as an astigmatic one, from the Greek word *α στιγμα*, not a point, which means that a point of contracted light is not being clearly made on the retina by the focusing apparatus. This astigmatism is usually a fault in the shape of the cornea, although it may be more rarely produced in the lens, or might even be from irregularities in the surface of the retina itself. It disturbs the making of sharp retinal pictures, and, to effect a given purpose, demands on the part of the eye muscles more work than nature intended. Should we similate the cornea to the glass which covers the face of a watch, we can readily understand how the glass may be so mashed out of shape by lateral pressure as not to fit the perfect rim into which it should adjust itself. In examining such a faulty glass we will find that the curvatures are not uniform in all directions; also that in the direction of the mashed edges the curvature is greater than the opposite or true surface of the watch-glass. The cornea is in this manner distorted into astigmatism. When the two meridians of curvature at right angles to each other are taken, they are not found uniform. They should in good eyes represent curved surfaces, all of which are made by one radius. Unfortunately, in astigmatism there is a different radius for each of the two curved surfaces.

The fixed law of optics makes the curvatures of a transparent surface responsible for the focal strength or condensing powers of such a surface. When in an eye these corneal surfaces all correspond, light passing through them on its way to the retina is bent uniformly toward one point, which is called the focus. That brings out on the retina a sharp picture made up of microscopic points of light. If, however, these corneal surfaces are not uniform, the parts corresponding to these varied curvatures, each acting as a lens, will produce two foci of light. Both of these foci cannot be on the same screen at the same time. The perfect part of the cornea will make its image in bright, luminous points on the retina as on a screen. The imperfect part in unfocused luminous rings will cast a shadow over the brighter points, and will more or less blur them. Then comes intuitively an effort on the part of the eye muscles to correct the faulty focusing and make the whole picture bright. This is a muscular act, and has to be repeated for every picture that is made on the retina.

It is easy to calculate how many of these distinct pictures are made in reading or writing, as nearly every letter has to have its own and exclusive photographic impression. The brain must register this, before this impression is effaced, so that the retina may be made ready for the succeeding letter. To those who have never tried the experiment, it is very startling to discover how small a part of a word we clearly see. Shut one eye and look at a word containing six letters. To see all of them sharply, you will find the eye moving from one side of the word to the other, proving that the six small letters cannot all be focused sharply simultaneously.

When a well-shaped eye adapts itself for reading there is, as it were, a steady contraction of the accommodating muscles, a very easy condition to sustain, even for long periods. With an astigmatic eye a new adjustment of the muscular apparatus has to be made for every picture, a species of perpetual motion, which cannot avoid producing fatigue and consequent pain, both in the eyes and in the head. Each surface has to be separately focused by the eye muscles upon the retina, because the two cannot be focused together. To keep the elasticity of the lens in a perpetual state of activity, focusing first for one corneal meridian, and then for the other demands incessant activity of the intra-ocular muscles. This tax is especially demanded when the eye is exercised in near work, the more especially under bad illumination. For an astigmatic eye all work is more or less of an effort, and night work by artificial light is especially fatiguing

The work of the ciliary muscle in astigmatic eyes may be likened to the irregular squeezing of an object by the hand. A well-shaped cornea focuses all light passing into the eye by one movement, just as the hand seizes and holds an object by the uniform pressure of all the fingers. No fatigue ensues upon this simple muscular activity. If, however, the fingers do not all clasp simultaneously the object, the thumb and second fingers, at one time, to be followed by the remaining fingers, these groups relaxing and contracting at the rate of so many times a minute, fatigue must result. If these irregular muscular hand movements were persisted in, pains would appear in the fingers, and, extending up the arm, would cause an aching of the whole limb.

The source of sensation for the intra-ocular eye muscle is from branches of the fifth cranial nerve, the great nerve of sensation for the whole head. It is a law of the human economy that when one branch of a sensitive nerve is excited all the branches might exhibit sympathetic irritation. From the anatomical distribution of the ophthalmic branch of the fifth nerve to all parts of the scalp we must expect these so-called neuralgic pains to accompany eye irritations, therefore the irregular action of the eye muscles in astigmatic eyes, being a common cause of local irritations, must be one of the fruitful sources of head disturbances. Then will also come into play nerve reflexes, intricate and far-spreading, and not restricted to the head alone. Some patients complain of dizziness, giddiness and irregularity in walking. Others of heart irritation, chest constriction, and of nausea. These various symptoms come on as the immediate sequel of eye work. With the very sensitive these uncomfortable results appear when the eyes have been used for only a short time; with others only after long and continuous application. When, however, the eyes finally break down, the irritability persists even when no close eye work is done. With this condition reading, for even a very few minutes, causes pain. The eyes become sensitive to light, and more or less persistent headache results. The irritation excited through the little use of the eyes during the day may last through the night, so that the patient is never freed from disturbance. With some these head disturbances are so constant from the ordinary uses to which the eyes are put, no eye injection accompanying them, that it is not surprising that the diagnosis is obscure, and that physicians are led astray. I daily see such cases. They report themselves the victims of perpetual neuralgias, or of malarial saturation, or of brain troubles, because the head aches so; or they believe themselves dyspeptics and bilious because of frequent nausea. With few exceptions they have had years of medical treatment, with only temporary relief.

For such headaches, and they are very common, there are but two remedies. The natural remedy is to abandon all use of the eyes, and by so doing not excite the irregular fatiguing muscular contractions which the use of astigmatic eyes bring about. Simple and effective as this remedy is, it is impossible of application. No one in these busy days can make this sacrifice of absolute idleness. The only remedy then left is to correct the excessive and irregular action of the interior eye muscles. This is accomplished by the use of cylinder glasses. When carefully selected, properly mounted and constantly worn, at least for near work, they make all the corneal curvatures act as if uniform in their focusing power.

By wearing proper glasses the eye machinery runs smoothly, and headaches of years continuance disappear as if by magic. A hypodermic injection of morphia cannot more promptly check pain than does the putting on of proper glasses relieve headache. Relief is often immediate with the putting on of cylindrical spectacles, and it becomes permanent under their continued use. Often during the first consultation patients remark *how restful the glasses make the head*, and how the old sensations of discomfort come back the moment the glasses are removed.

Quite recently an intelligent lady, 26 years of age, from a distant city, could not for years recall a single day when she was freed from headache. Very often she had to seek comfort in bed, in a dark room. Her case was one of irregular near-sightedness, or, as it is termed, "myopic astigmatism." When the proper glasses were adjusted the beauty and comfort of seeing was a revelation, which she expressed by face as well as by words. She wore the glasses prescribed, and for the first time in her remembrance enjoyed the comfort of freedom from pain. The giddiness in her case had been so annoying and her gait so unsteady, at times, that she found no pleasure in walking. With the correction of the eye irregularity came a steadiness of tread delightful to enjoy. I found that the nose-bridge of her spectacle-frame was a little too narrow, and suggested that the optician open it a little. For three days she had been leading, as she said, a life of luxury, going where she pleased, reading all she wanted, and with perfect bodily comfort. At my suggestion she visited the optician to have the frames properly bent. Awaiting the correction of the frames in the store, she was forced to go without her spectacles for ten minutes, and her headache promptly returned. As she said to me: "You may imagine my anxiety to get my precious glasses back again, and how I enjoyed them from the moment I put them on."

Astigmatic eyes I see and correct every day; all astigmatic eyes under continued use cause eye and head pains, headaches more or less persistent being a constant accompaniment of such faultily constructed eye-balls. *Properly selected and properly adjusted cylinder glasses alone will relieve such.* I therefore cure persistent, long-lasting, very annoying and more or less severe headaches every day by prescribing glasses. With very few exceptions all of these patients have been under medical treatment; some for very long periods. With these patients nearly every organ of the body, *except the right one*, has been falsely accused of creating and keeping up the head disturbance. Mercury has been given to many of them for supposed liver torpidity. Iodide of potash has been swallowed by the quantity for the purpose of correcting some obscure syphilitic taint, of which there is no history. During the many years of suffering quinine has been prescribed to the extent of ounces to break up imaginary malarial impressions. The temples have been leeched and blistered and the head neuralgias have been vigorously, but unsuccessfully, fought by a host of active remedies. Pessaries have been worn because the uterus was supposed to be in some mysterious way connected with the head trouble. Often it has occurred. when the physician's long list of remedies is nearly exhausted, that a friend of the patient has suggested that the constant headaches of one of her acquaintances was cured by the wearing of glasses, and perhaps in this case benefit might equally come. In this indirect way patients finally get relief.

The object of this paper is to draw the attention of physicians to the fact that constant headaches, even when not connected with imperfect vision, or painful eyes, may be caused by faultily constructed eye-balls. Also that when such is the case medication is of no avail in obtaining permanent relief.

Tonics to the enfeebled, by increasing muscular strength, may temporarily or partially relieve the discomfort. It does not remove the cause, and therefore a tonic cannot cure. *Also that rest for such eyes, when pain in the eyes accompany the headache, effects no permanent good.* The trouble remains to annoy as soon as the eyes are again put to use. There is but one way to rest such badly shaped eyes, viz : correct the fault by properly adjusted glasses.

There are thousands of young persons in our midst who are now impatiently resting their eyes for weeks and months at a time, under bad medical advice. Some are kept from school, a serious break in the education. Others can illy spare the time from their various pressing occupations. All are taking physic, to enable them to escape from annoying headaches which come on whenever they apply themselves. These long-suffering and much abused patients need some one to suggest to them the well established fact that, although the eyes do not visibly inflame, they are a common cause of head discomforts, and that this fact in their respective cases is calling for recognition. This advice should come properly from the family physician, and should not be accidentally obtained from unprofessional sources.

MEDICATION BY INUNCTION.

By T. L. Booth, M.D., Stem, N. C. (Read at a Meeting of the Board of Health of Granville County, held at Oxford, N. C., August 24th, 1889.)

Epidermic Medication, in a general sense, occupies a very uncertain place in the science of Medicine. Men of much eminence and ability have discussed the question *pro* and *con*, and still we are left with but little more knowledge of the subject than our predecessors had.

It is a well-known fact, however, that some substances are readily absorbed, even when applied to the skin in an undissolved state. Such a substance is found in metallic mercury, by the careless handling of which salivation may be produced. Mercurial ointment is only a mechanical mixture of metallic mercury and benzoated lard, and yet it is readily absorbed by the skin and in sufficient quantity to produce mercurial poisoning. Now, it is an evident fact that, as such, metallic mercury cannot enter the general circulation through the normal skin. It must first be reduced to a solution by some agency found in the secretions of the skin. Now, the question naturally arises: What is found in the natural secretions of the skin which has the power of dissolving mercury? We turn our attention to the chemical analysis of these secretions and find that the only free acid found in them is the product of the sweat glands, and the problem as to the solution is solved. The acid which is found in the product of these glands finds its way to the surface by means of the ducts which lead from them, and is probably reabsorbed in some degree by the same agent.

If this acid is found in sufficient quantity to accomplish the solution of mercury, why may it not also dissolve quinia and other substances soluble in acids? And why may they not, in this acid solution, be absorbed by the skin, or even by the sweat duct or the gland itself? The solution of mercury in the same acid is absorbed by some of these agents.

Each gland and its duct is surrounded by a perfect net-work of capillary blood-vessels and lymphatics, the walls of which are in immediate contact with the substance of the gland and duct. The constant movement of the fluids, with which these vessels are filled, greatly facilitates the absorption or endosmosis of any fluid which may be in contact with them.

It has been proven to the satisfaction of my mind, notwithstanding the fact that there is much eminent authority to the contrary, that quinine is absorbable by the skin, and in sufficient quantity to produce its characteristic effect. The mixture of lanolin with quinine in no way affects the composition or power of the former. Under the microscope its crystals present the same appearance as in the unmixed specimen. The only way in which the lanolin promotes the absorption of any substance by the skin is by its direct action upon the epithelial cells and the duct walls, both of which are made softer; the cells more spongy and porous, and the ducts more easily dilatable by the solid or crystalline substance incorporated with it This condition of the duct having been accomplished by the agency of the lanolin (or codliver oil is almost as good), the quinine, in intimate mixture with it, is forced into the funnel-shaped orifices of the sweat-ducts and forms an obstruction to the flow of that fluid, which is constant when not disturbed. Thus the quinine is brought in contact with the free acid which is found in the duct, and that part of it which is dissolved is still confined in the duct by the more external part which has not come in contact with the dissolving agent. This solution is now in immediate contact with the delicate membrane which forms the duct wall, and this membrane is not only in actual contact with, but is almost supplied with its own nutrient capillaries, and by the law of osmosis, by which a stagnant fluid, separated from an actively moving fluid by an animal membrane, is absorbed through that membrane into the actively moving fluid, the solution enters the capillary circulation and by them is taken into the general system.

Nor is this the only way in which quinine may enter the system through the skin. Admitting that it is dissolved by the acid secretion of the skin, which it must be, if brought in contact with it, it may obtain access by mere penetration of the epidermis, which in some parts of the body is very thin and cellular, and, under the influence of a softening agent such as lanolin or codliver oil, become easily penetrable. Having penetrated the epidermis, it comes in contact with the papillæ, which are immediately under the epithelium, and is there absorbed by the capillaries or lymphatics; or, having penetrated still deeper into the cellular tissue, is taken up by the capillaries, with the effete matter or waste tissue which they absorb in their return from the surface. The position which Dr. Ritter takes, viz: "That no fluid can be absorbed by the skin, except when the continuity of the integument has been interfered with," seems to me to be not very tenable. It is equivalent to saying that the skin has no absorbing power in its normal condition, for of course no solid, as such, can by any natural course be conveyed into the general circulation. It is, however, a matter of little moment to us whether the integument remains entirely intact or not, so long as we are not able to detect any lesion or injury to it by ordinary means, and still have our remedies absorbed.

Of course any fluid will be more readily and quickly absorbed by a surface denuded of its epithelial covering, for in such a case the whole papillary surface becomes an absorbing surface and the capillaries of both the circulatory and lymphatic systems are laid bare to the direct action of the fluid applied. But what may thus be accomplished in a larger degree, may also be accomplished in a smaller degree, with the integument still in a perfectly normal condition. The difference between the two is in direct proportion to the area of capillary surface brought into contact with the fluid to be absorbed in each case.

In the former it is reached by direct application, while in the latter it must be reached through the natural orifices of the ducts of the subcutaneous glands, or more slowly through the substance of the epithelial cells. No one doubts the fact that codliver oil, as well as some other of the animal oils, is quite readily absorbed when rubbed on the skin; and why is it more readily absorbed than other fluids of a different nature? As before stated, it is because of its action on the epithelial cells by which they are softened and rendered porous or spongy, and consequently more easily penetrable.

Then, if this be the case, why may not a substance, though not fluid in its nature, if intimately incorporated with the oil, be carried by it or with it into the tissues? Once being in the tissues, if soluble, which is the case with quinine, it must of necessity be dissolved by the fluids with which it comes in contact there.

It being now reduced to a fluid and present in the tissues in contact with the delicate walls of the absorbing agents, which are abundant everywhere, the subcutaneous tissue, absorption necessarily follows. There remains still to be mentioned another means by which the absorption of quinine by the skin may be accomplished. Under certain circumstances quinine may be dissolved in considerable quantity in pure codliver oil. In perfect solution with it, then, there can be no mechanical obstruction, such as may be supposed to exist in a mere mixture, to its being absorbed, which may quite as easily take place as in the case of the oil alone. This is perhaps the easiest and most certain method of administering quinine by inunction.

There are certain of the vegetable oils which are also readily absorbed by the skin. A very familiar example of this is the oil of turpentine. When confined in contact with the skin it is almost immediately taken into the system in sufficient quantity for its presence both in the exhalations from the lungs and the urine to be detected by its characteristic odor. It is barely possible, however, in this instance, as Dr. Ritter declares is the case in every instance, that the continuity of the integument may be so injured by the action of the oil of turpentine as to allow it to pass through without really penetrating the substance of the cuticle. But take another example, which is quite as familiar to many of us, viz: that of tobacco. When a leaf of tobacco is dampened and applied to the chest of a child (which is more frequently done by the laity than by the profession), in a very few minutes evident signs of tobacco-poisoning present themselves, just as though that substance had been taken into the stomach. The idea advanced by Dr. H. C. Wood, viz: "That lanolin being a sebaceous substancce, not intended by nature to be absorbed, but to grease and to soften the fibres of the wool, the possession by it, of any power of aiding absorption through the skin is doubtful," is an erroneous one. It is quite true that lanolin is a sebaceous substance, but its office in nature is not alone confined to softening fibres of the wool, but it also keeps the skin soft.

This is the action which is most important to us in our use of it to produce or promote the absorption of other substances. It must be absorbed by the skin in some degree before it can have any softening action upon it, and in performing this very function for which nature has intended it, it is especially adapted to our purposes. Furthermore, we know by actual experiment that, under the influence of friction, the skin will so thoroughly absorb it that no vestige of it will remain on the outside.

Thus we have conclusive evidence that not only our lanolin and other animal oils absorbed by the skin, but that some of the less adapted vegetable oils are also readily absorbed, even when there is no friction used and there is nothing present to produce any increase of the vascularity of the parts to which they are applied.

Even turpentine has no irritant effect upon the skin of some individuals, though this is by no means the general rule. Relative to the parts of the body which offer the best advantages for absorption, it is obvious, upon a glance at the comparative anatomy of the parts, that the anterior, rather than the posterior parts of the body, should be chosen, and that the inner and more protected parts of the limbs should also be selected. The skin in these parts is softer and more easily penetrable than in those parts where it is thicker and harder. The inner surfaces of the limbs are especially adapted to inunctions, because in them the epidermis is not only thinner, but the skin is abundantly supplied with glands, the ducts of which, instead of being spiral in their course, as is the case in those parts possessing a thicker epithelial covering, are almost straight in their course from the glands to the surface, and hence offer a more direct and easily accessible course to the inner and deeper tissues. Still another advantage possessed by these parts over those supplied with a more abundant supply of epithelium consist in the fact that the subcutaneous glands and their ducts are filled with a substance which is quite fluid in its consistency, while the secretions of the same glands in the thicker and more exposed parts is semi-solid in its consistency, and does not offer the same facilities for mixing with, and eventually dissolving, the solid or crystalline substance which we may wish to have absorbed. Friction performs a very important office in obtaining the absorption of medications by the skin. It not only forces the substance into the orifices of the ducts or through the epidermis, but also increases the functional activity of the parts by the local irritation which it produces. By friction, also, the lymphatics are emptied of their contents, which is prevented from returning after having been forced out by the action of the valves with which even the smallest lymphatics are supplied, and their activity is increased by that condition. The general condition of the system may also exercise a powerful influence upon the absorption of substances applied externally as well as those administered internally. Take, for instance, a subject who is in perfect physical health, whose general system is supplied with everything necessary to his comfort and whose alimentary canal is in perfect working order, and perhaps filled with nutritious material. In vain you offer anything to the minor absorbing powers, they are comparatively inactive, for the physical economy feels the need of nothing, and nature has arranged it that when least needed the functions are least active.

Take another, on the contrary, who is dying of inanition; in whom every fibre of every muscle is, as it were, crying out for nourishment, when the alimentary canal, either from disease or functional inactivity, is unable to supply the absolute need of the general system; then you find a very different state of affairs. Every organ, be it ever so small, which can be converted into an absorbing agent, is called into play; every subcutaneous gland becomes a recruiting agent of some activity; every orifice of every duct, through which any substance can enter is yawning and ready to receive anything presented to it in an acceptable form. Doubtless a disregard of this law of the economy is in some degree responsible for the negative results obtained by some eminent scientific investigators.

In any experiment, when a negative result is obtained, it does not necessarily prove any general fact, except as regards the individual upon whom the experiment is made; but to the contrary, when a positive result is obtained, the general fact is proven. I will here relate two cases which are of some interest in this connection.

W. B., a white boy, aged four years, was taken in May, of this year, with a very severe attack of dysentery. In addition to the severity of the usual symptoms which accompany dysentery, on the second day of the attack his stomach became so irritable that it would retain absolutely nothing. During the third twenty-four hours of the attack he went to stool, as I was assured by his mother, 30 times, discharging each time a little blood and mucus, or bloody mucus.

On the fourth day I discovered a decided intermission in his fever, which up to that time, from the beginning, had been higher and constant, so far as I was able to determine. It now became evident that I could no longer depend on the local applications to the diseased bowels, with which I had previously attempted to allay the severity of the inflammation; and that unless I could by some means meet the indications for quinine, my patient must soon succumb to the severity of the combined symptoms.

I had no faith in the efficacy of inunctions of quinine, but being deterred by circumstances from its hypodermic use, following the suggestion of Dr. J. W. Booth, who was called into the case at this time, I determined as a last resort to try it. Accordingly I ordered quiniæ sulph. ½ drachm, lanolin and codliver oil q. s.. M. ft. ung., and directed half the ointment to be rubbed into the inner sides of the arms and legs during the intermission. Notwithstanding the fact that all the ointment seemed to have been absorbed, the temperature still rose, but a little later in the evening than previously. I pursued the same treatment during the next intermission with about the same results. On the fourth day after this treatment was begun I ordered an ointment prepared in the same way containing just three times as much quinine (1½ drachms), and ordered the whole of it to be rubbed into the skin of the arms, legs, chest and abdomen during the next intermission. Much to my surprise, the fever did not rise until much later in the evening, and then not so high as previously. The same treatment was continued and no elevation of temperature again occurred. There were also present evident signs of cinchonism. The severity of the other symptoms began to abate with the fever, and I soon had the satisfaction of seeing my little patient convalescent. My experience in this case led me to pursue the same plan of treatment in the case of my baby, a boy, aged fourteen months, who was attacked in the same way a short while after the case just related. He also had dysentery with intermittent fever distinctly marked. His stomach was very irritable, and would retain no medicine of any kind except occasionally a little lime water with milk. I ordered quiniæ sulph. ½ drachm, lanolin ½ oz., codliver oil, 2 dr. M. ft. ung., and rubbed the whole of it into the arms, legs and abdomen during the intermission. After pursuing this treatment for three days the febrile element was conquered.

But the dysentery held on for some time, and was finally conquered by rectal medication. Dr. S. D. Booth, of Oxford, N. C., related a case to me which occurred in his practice, in which, by mistake, a large quantity of quinine was rubbed into the skin of a young baby. He was sent for in haste, and found the baby profoundly cinchonized. I have never had occasion to use inunctions of quinine in the treatment of adults, but I see no reason why it should not succeed if the quantity used should be proportionately as large as in the case of infants. In its use it should be borne in mind that the quantity required is very much larger than when administered in any other way, and that the parts should be rubbed with the hand until no trace of the ointment remains.

MOIST GANGRENE OF BOTH LEGS FOLLOWING PARTURITION.

Reported by Dr. W. F. Faison, Jersey City Hospital.

P. G., a robust young German woman, 19 years old, was confined for the first time on June 2d, 1889. No physician attended her. Two days afterwards she was admitted to the hospital. She showed no symptoms of septic infection till June 7th, five days afterwards, when she was seized with a severe and prolonged chill, followed by a temperature of 105° F. Knowing that her hygiene surroundings had been bad, I thought she might be suffering from septic intoxication due to auto-infection and prescribed fluid extract ergot and quinine sulphate, and irrigated the vagina and uterus with a solution of bichloride of mercury (1—2000). Her child was taken from her breast, and, in spite of every precautionary measure, an abscess was developed in each breast to complicate the case. Chills continued every few days with a morning remission and evening exacerbation of temperature ranging from 102° to 105° F. Within ten days she complained of cold feet with an intolerable burning pain, and within fifteen days the characteristic dusky hue of gangrene had made its appearance on both feet, which were icy cold to the touch, became black, and soon began to slough, exhaling the horrible odor peculiar to moist gangrene. Two or three abortive attempts at forming the line of demarcation were made, but the morbid process continued, reaching on the left leg within three inches of the knee, and on the right leg three inches above the ankle before the patient succumbed.

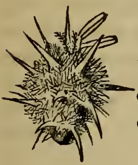
Her general symptoms were those of collapse; the pulse rapid, feeble and finally became almost imperceptible at the wrist, the respiration sighing, the breath emitting a sickly sweetish odor, and the whole body bathed in a profuse cold perspiration, just before the closing scene well-marked "typhoid" symptoms were developed, ushered in by a low, muttering delirium, hypogastric tenderness, and considerable tympanitis, sordes collected on the teeth, and the tongue was brown and dry.

She died on July 11th, 1889, of pyæmia. I would not attempt to give the cause or causes of the gangrene, but from the fact that there were no symptoms of phlebitis, and from the fact that the blood is known to contain an enormous increase of fibrin in the puerperal state, and is charged with effete products when the hypertrophied uterus is undergoing involution, these facts, in conjunction with the open avenues for entrance of germs (sinuses of the uterine blood-vessels and lymphatics), and from the want of suitable preventive treatment, both against auto- and heterogenetic infection, it seems possible that this may have been one of the few important cases reported by Sir James Simpson, in which the arterial obstruction was due, not to embolism, but to local thrombi caused by blood dyscrasia peculiar to the puerperal state.

A SAND SPUR IN THE CHINK OF THE GLOTTIS FOR FOUR DAYS.

Reported by K. P. **Battle**, M.D., Raleigh, N. C.

A boy of twelve years was recently brought by his physician for the extraction of a sand spur from his larynx. This is the local name for the burr or seed of a coarse kind of grass, well known in the extreme eastern portion of the State. It resembles somewhat the more widely spread cockle burr, but its spines are much less thickly set and much longer, stiffer and sharper. A large, full grown specimen is represented in the cut, but the one with which we had to deal was not more than half that size.* The boy, four days before I saw him, had gotten one of these vicious objects fastened upon his hand, and while putting it to his mouth to pull it off with his teeth had taken a sudden inspiration and drawn it into the larynx.



When I made an examination the spur was seen caught between the true cords about the middle of the rima glottidis, one or more of the spines piercing each cord. At each point of puncture there was a white spot surrounded by a bright red areola, and the whole larynx was congested. The pharynx was sprayed with a four per cent. solution of cocaine and a pledget of cotton securely fastened to a laryngeal probe was soaked in a sixteen per cent. solution and pressed against the posterior surface of the epiglottis and the upper parts of the larynx. The solution was in this way made to trickle down upon the wounded parts below. The cords themselves were also touched, gently, as the parts came to feel the anæsthetizing effect of the cocaine. When the full effect was shown to have been obtained by the use of the wet cotton, and not till then, a flexible-tubed forceps, with nippers opening antero-posteriorly, was inserted, under the guidance of the throat mirror, and the spur was grasped and withdrawn. A slight resistance was felt, showing that the body was firmly fixed in the tissues.

The attending physician had obtained a good view of the larynx, and had made several attempts to remove the burr, but had not succeeded. In discussing the subject we agreed upon the causes of the failure, and, at his suggestion, I mention them in the hope of helping the general practitioner who may be called to remove a foreign body from a similar situation. In the first place, he did not use the right kind of forceps. The blades of the only one he had at hand opened from side to side, and not antero-posteriorly, and with that kind of forceps it was almost an impossibility to remove the burr from the position in which it had been caught. Another mistake made was in not applying the solution of cocaine to the larynx carefully *until it was ascertained that the parts were thoroughly anæsthetized* before making an effort to remove the foreign body. When this is properly done the attempt may be made with deliberation and with a far greater chance of success. It is well to remember, however, that the maximum of effect from cocaine is more transient in the larynx than elsewhere, and does not last more than about three minutes; and, further, that cases are met with in which no reasonable amount of cocaine seems able to give complete anæsthesia. In this case the body was fairly grasped by the antero-posterior forceps mentioned above at the first attempt, without causing the slightest movement on the part of the muscles of the pharynx or larynx, and this, as a general rule, may be expected.

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*NOTE.—*Sand-spur*, *Burr Grass*, *Hedge-hog Grass*, *Cock-spur* are the distinguishing names by which *Cenchrus tribuloides* goes in different parts of the country. It is a worthless, coarse, recumbent grass, very abundant about the sandy sections of the Atlantic sea-coast, and around the great lakes. The prickly involucre, a cut of which is given above (is by Sprague, as found in Gray's Botany), is a great annoyance to the bare-footed boys. The spines of the *sand-spur* (as it is commonly known on our sea-coast) are woody and rigid, very sharp and barbed, and very difficult to pick out with the fingers when once they get lodged in the stockings or elsewhere, as in pulling with the fingers of one hand they stick into the other. In the case above reported the patient pulled the "spur" from his stocking with his fingers, and then removed it from his fingers with his teeth, whereupon it stuck to his tongue, when, by an unfortunate sudden inspiration, induced by the pain of the prick, it dislodged itself and stuck into the larynx. Dr. Battle's skill in removing this troublesome burr is greatly to be admired. An attempt to remove it by me, continued during two sittings of more than an hour each time, failed, although I had the foreign body in plain view in the laryngeal mirror, and had the parts well cocainized, as I thought. I had at hand only a pair of laryngeal forceps, of good shape, but opening laterally, and as the blades had to be opened just before I reached the burr, and as it was well impaled somewhat below the level of the cords, my maneuvre necessarily touched the cords before the instrument reached it, causing an effort at closure of the glottis. Dr. Eattle, with a pair of Toerck's forceps, picked it up without touching the well anæsthetized cords. T. F. W.

SELECTED PAPERS.

ON THE USE OF ANTIPYRIN IN MALARIAL FEVERS.

By William T. Prout, M.B., C.M., Edin., Assistant Colonial Surgeon, Gold Coast, Africa.

The antithermic properties of antipyrin have now been recognized for such a long period of time that it may seem superfluous at this date to call attention to them, and yet there is a class of cases to its use in which attention has been little directed, and in which I believe it has not hitherto been much employed. In this drug, however, we possess a remedy which, in my experience, is absolutely certain to cut short the duration of a paroxysm of malarial fever, and when used in combination with quinine, shortens the whole attack. (When I use the word certain, I must point out that I refer to an attack of pure malarial fever, no matter how severe; that is to say, an attack uncomplicated by any other distinct disease, such as hepatitis, enteritis, etc. In such cases antipyrin will not give the same results.)

Diaphoretics, from the simple infusion of some garden herb, culled from a native's garden, or the good, old-fashioned mixture of liq. ammoniæ acetatis and sp. ætheris nitrosi, to the more active remedies, jaborandi or Warburg's tincture, have each found their advocates;

and have been more or less successful. But to each of them there is the objection that, however successful they may be in the majority of cases, yet every now and then we meet with some case which baffles all our efforts, where the temperature remains persistently high, and where no drug seems to possess the power of producing diaphoresis and of diminishing the pyrexia. It is in such cases as these, as well as the simpler forms, that antipyrin is specially valuable.

One of the most striking effects when administered during the hot stage is the almost immediate feeling of relief which it affords to the patient. All those who have suffered from an attack of intermittent or remittent fever can recall the intense throbbing headache, the constant feeling of oppression, and the aches and pains in the loins and limbs which render any one position impossible for any length of time. Here the anodyne properties of the drug come into action, and, if they do not completely relieve these distressing symptoms, at least lessen them. As a result of this, the patient becomes drowsy, and after the second dose usually falls into a sound, refreshing sleep. At the same time the skin begins to feel moist, and this increases until the patient is drenched in perspiration. The temperature steadily falls, and in most cases does so until it is subnormal. The fall of temperature begins almost immediately, and the rapidity with which it sinks varies with the individual case and probably with the stage of the attack at which it is administered. In Case IV., for example, the temperature was subnormal four hours after the administration of 15 grs. only, while in Case V., with much larger doses, it took seven hours to fall from 103.8° to 99.4°. The duration of the intermission is from twelve to eighteen hours; but this probably depends upon the action of the quinine which I always prescribe *after* the antipyrin, and which intensifies the action of the latter drug, as the diaphoresis becomes more marked and the decline in temperature more rapid after its use.

Quinine alone will not do this, especially if the temperature is over 100°, and is still rising. In many such cases it is practically useless, and, in fact, seems to have an irritating effect rather than otherwise. It is when the temperature has *begun* to fall, and during the intermission, that quinine is invaluable. The combined use of these two drugs has given such satisfactory results that I have not tried antipyrin alone, except in one case, a native, where certainly cure eventually took place, although the duration of the attack was considerably longer. When we remember that antypirin belongs to the same group of chemical substances as quinine, it would almost seem from this that it has some specific action on the malarial poison, although, of course, one case is far from conclusive.

The action of antipyrin on the pulse is variable. It generally slows and steadies it and increases its tension, while at times it has a little effect.

Antipyrin is well retained by the stomach—an advantage—and by no means an unimportant one, which it has over other diaphoretics, especially in countries like the Gold Coast, where gastrohepatic disturbances are an almost invariable concomitant of malarial attacks, and where vomiting frequently constitutes one of the difficulties of treatment.

Macalister, in summing up the effects of antipyrin, states that it increased skin radiation, diminished the difference between peripheral and central temperature, lowered the temperature as a whole, diminished thermogenesis, diminished the production of nitrogenous waste, and therefore, nitrogenous metabolism, and frequently, but not always, increased perspiration, while it generally slowed the heart and slightly increased the tension of the radial artery. In malarial fevers, however, the effect on perspiration is much more marked, and this, in addition to its thermolytic and thermogenetic properties, may afford an explanation of its action. Taking for granted that this class of fevers is due to a microörganism (Laveran, Marchiafava, Celli and others), we must attribute the rise of temperature to the effects of the morbid products derived either directly from the microörganism or from its destructive action on the red blood-corpuscles. That malaria is a disease of which the essential characteristic is a destruction of the red blood-corpuscles, is now well established; and it has recently been shown by Drs. Bristowe and Copeman in a series of experimental observations on a case of paroxysmal hæmoglobinuria, that the destruction of blood-corpuscles is itself sufficient to cause a rise of temperature; consequently, when we eliminate these morbid products as rapidly as possible through the sweat glands we diminish the pyrexia. This result being achieved, quinine, which is a specific poison to the malarial organism, now steps in and prevents its further development.

Probably the same explanation can be given of the well-known beneficial effects of full doses of calomel in malarial fevers, apart from the fact that quinine forms an insoluble salt with the bile, and hence will not act until the latter is removed. The seat of blood destruction in health, and of the removal of the products of this, is the portal circulation. In malaria, however, the excessive blood destruction throws such a strain upon the liver that it is unable to act, and gastro-hepatic disturbances ensue. Calomel, by removing the accumulated bile, allows the liver cells to set to work on the morbid products circulating in the blood, and thus acts indirectly on the temperature.

With reference to the manner of administering antipyrin, I find that large doses are most satisfactory, and that they have never in my experience been followed by bad results. Thirty grains should be given at once, and repeated in an hour or an hour and a half, and a further dose of 15 grs. may be given if required. During the intermission quinine should be given freely.

The following five cases of fever occurring in Europeans, will serve to illustrate the action of antipyrin :

CASE 1.—Patient A. B. had just returned to the coast from a six months' expedition to the interior, during which he had had an attack of fever. When I saw him at 7½ o'clock, p. m., his temperature was 103.2°. Face flushed; tongue very foul. Bowels had been moved during the day by a dose of some effervescent saline. There was slight tenderness over the spleen, but none over the liver; skin hot and dry; great headache, and pains in muscles of back and legs. Thirty grains of antipyrin were taken at 8 : 30 p. m.; 9 p. m., temperature 102.8°; skin beginning to feel moist; headache lessened and patient sleepy. Ordered 30 grs. at 9 : 30 p. m., and at 10 p. m. quinine 15 grs., with a pill composed of pil. hydrarg., pil. col. et hy., āā gr. vj.

Second day. An effervescent saline was given at 6 a. m., and when I saw him at 8 a. m. his bowels had been freely moved; temperature 97.8°; headache had disappeared, and patient felt better generally. Quinine grs. 15 had been given at 6 a. m., and 10 grs. were ordered to be taken at 9 a. m., 12 m. and 4 p. m. At 7 p. m. there was only slight tendency to return of the fever, the temperature being 99.3°. Ten grains of quinine were given at 9 p. m. After this there was no return of the fever, two or three days' course of tonic treatment being all that was required to complete recovery.

Case 2.—This case is very similar to the first one. Patient C. D. had been up in the interior for two and a half months, and had just returned to the coast. He had been complaining of a constant feeling of nausea for some days previous to the attack, pointing to some gastric disturbance with hepatic inactivity, a very common antecedent to fever on the Gold Coast. When I saw him at 4 p. m. the temperature was 102.8°. There were great feeling of discomfort, great headache, and pains in the loins and legs; tongue very foul; 9 p. m., temperature 103.2°. The medicines which I had ordered only arrived. Gave antipyrin grs. 30, to be repeated in an hour, and afterward quinine grs. 15, along with pil. hydrarg. and pil. col. et hydrarg. aa gr. vj.

Second day. 8 a. m., patient said he slept well after the medicine, and the headache and pains disappeared. Bowels freely moved. Quinine grs. 10 at 8 a. m., 12 m. and 4 and 7 p. m. At 7 p. m. the temperature is 99.2°, showing a tendency toward return of fever, but otherwise patient is all right. Another 10 grs. of quinine to be taken. From this date there was no return of the fever.

Case 3.—Patient E. F. had had a very slight attack of fever a few days previously, from which he had recovered, but having had the imprudence to go on duty (contrary to orders) in the afternoon, during which he was exposed to the sun, a second and severe attack was the result. Exposure to the sun is not unfrequently followed by an attack of true malarial fever, and the explanation is probably to be found in the fact that the vitality of the system is lowered, and as a result the malarial organism, which has hitherto remained dormant, is able to act upon the weakened body. In a region like the Gold Coast, where one is constantly exposed to the malarial poison, and where the system may be supposed to be saturated with it, any lowering of vitality, from whatever cause it may arise—exposure, excessive use of alcohol, etc.—is liable to be followed by an attack of fever. 7 p. m., temperature 104.4; pulse is bounding and incompressible; tongue is covered with a thick white fur; breath offensive; has been to stool once or twice to-day. There is tenderness both over the liver and spleen; constant feeling of nausea, and patient has been vomiting at intervals. Twenty grains of antipyrin were given at 8 p. m.. At 10 p. m., temperature is 103°, and skin is beginning to feel moist. The same dose of antipyrin was repeated, and 6 grs. of calomel were given. Twenty grains of quinine were ordered to be taken in an hour.

Second day. 8 : 39 a. m.; patient slept well, and awoke during the night bathed in perspiration. The temperature is now 97.9°. Bowels have been moved freely. There is still a slight feeling of nausea. Ten grains of quinine were given at once, and at 10 a. m., 1, 6 and 9 p. m. ; 8 p. m., temperature 99.4°.

Third day. Temperature 98.7°. Patient is feeling better, but weak. From this date there was no return of fever, and tonic treatment was prescribed.

Case 4.—Patient G. H. was a man with marked alcoholic tendencies, and the present attack I attributed to alcoholic excess two days previously. When I saw him at 7 p. m. his temperature was 102.5°; his skin was hot but moist; there was considerable headache; tongue was foul and tremulous, and there was a disagreeable taste in the mouth; there was a constant tendency to vomit; tenderness over liver and spleen; pulse fast and weak. Ordered 15 grs. of antipyrin at once, and 10 grs. of quinine to be taken at 8 p. m.; 11 p. m.; patient has slept since my visit. Skin feels cool and moist; has been sweating freely; temperature 97.8°; headache has quite gone. There is no tendency to vomiting, but he says had great difficulty in retaining the antipyrin. Pulse slow and full. Gave pil. hydrarg., pil. col. et hydrarg. aa gr. vj., and ordered 20 grs. of quinine an hour later.

Second day. Temperature 97°. Patient says he had a good night; has been to stool twice. Quinine grs. 10 at 6 and 8 a. m., and again at 1 p. m.; 12 m., temperature 97°; pulse 90, full and compressible; 7 p. m., temperature 100°; pulse 102; pain over liver and spleen more marked than yesterday; tongue extremely furred; skin hot and dry. Gave 10 grs. antipyrin at once, and 15 grs. quinine at night. Left a sleeping draught of pot. brom. and chloral, to be taken if necessary.

Third day. 8 a. m., patient did not sleep well; vomited the sleeping draught. Temperature 99.9°; pulse 94. Tongue very foul; the tenderness over the liver and spleen continues. Quinine grs. 10 at 10 a. m., 1 and 4 p. m.; 4 p. m., the temperature remains the same, but patient says he is feeling better. Pulse 96; moderately full. Tongue clearing at edges. Quinine grs. 10 at 7 p. m., and grs. 15 at 10 p. m. Pil. hydrarg. grs. 4 at 10 p. m. A sleeping draught if necessary.

Fourth day. 9 a. m., temperature 97.8°. Patient took sleeping draught and had a good night. Ten grains given at once and 15 grs. at 1 : 30 p. m.; 6 : 30 p. m., temperature 98°. Has been twice to stool; tongue slightly furred; feels very weak. Quinine grs. 15 at night.

Fifth day. Temperature 96.8°. Patient feeling better. The quinine was continued in smaller doses, and a mixture of arsenic, cinchona and nux vomica prescribed

This was one of the first cases in which I had recourse to the drug, and I was somewhat chary of using the large doses which I used later. Its effect is, however, well shown on the first day, where the temperature fell from 102.5° to subnormal in four hours, and continued thus until noon on the following day. The return of the fever, I think, was due to my not having given sufficient quinine during the intermission, and perhaps also to the disordered state of the liver. The temperature fell at once after a second dose of blue-pill.

This was the only one of these five cases in which I had an opportunity of examining the blood microscopically, and it may be interesting to mention that I recognized several of the large pigmented bodies which Laveran describes in his *Traité des fièvres Palustres*, but I was unable to satisfy myself of the presence of the crescentic bodies or of the "filament motiles." The red blood corpuscles varied considerably in size, became very quickly crenated, and assumed irregular shapes very readily on pressure. Occasionally a distinctly nucleated red corpuscle could be seen.

CASE 5.—Patient I. K. had passed the last two months moving about in the interior, during which time he had gone through a good deal of fatiguing work, and occasionally had been much exposed to the sun. When returning from this expedition he had suffered from a severe attack of fever accompanied by diarrhœa, which left him in a very reduced and anæmic condition. The exciting cause of the present attack was said to be a chill met with on board the steamer while coming along the coast. I saw the patient about 12 noon. His temperature was then 104.2°; pulse 100, weak and compressible. Tongue yellow and furred, but not markedly so. There was a feeling of nausea. Bowels had been freely opened by a strong purgative, but patient is habitually constipated. There was slight uneasiness on pressure over liver, but none over spleen. Skin moist; intense headache. There was a great feeling of weakness and a sense of oppression on the chest; in fact, throughout the illness the great prostration was one of the most marked features. I ordered a hot drink until the medicines arrived from the hospital. About 2 p. m. 30 grs. of antipyrin were given, the temperature then being 103.8°, but the other conditions remaining the same. There was a little tendency to weakness about this time. At 3 o'clock the temperature had fallen to 103°, and patient was feeling better and inclined to sleep. I repeated the antipyrin. At 6 the temperature had fallen to 101.4°; pulse 82; fuller than before. Patient had been sweating freely. At 6 o'clock 15 grs. of antipyrin were given, and at 7 : 30 10 grs. of quinine. At 9 o'clock the temperature was 99.4°. Gave pil. hydrarg., pil. col. et hydrarg., aa grs. 5, and repeated 10 grs. of quinine. Also left a sleeping draught of pot. brom. and chloral, as patient had passed some very bad nights previously. During the day champagne was administered freely, and liquid food in the form of Liebig's extract of beef, with beef, peptonoid powder, etc., was taken.

Second day. 7 a. m., temperature 98.8°. Slept well, patient feeling better generally; 11 : 30 a. m., still no fever; temperature 98.6°; pulse 62. Ten grains quinine given at 8 a. m. and 12 m.; 5 : 30 p. m., slight return of fever; temperature 100.4°; pulse 86; somewhat bounding. Complained of aches and pains. Gave 30 grs. of antipyrin; 7 : 15 p. m., temperature has risen to 101.8°. Patient feels very weak and despondent, and complains of difficulty of breathing and a tendency to take long breaths. Repeated antipyrin, 30 grs ; 9 : 15 p. m., temperature has begun to fall and is now 101.2°; pulse lower; has been sweating freely; gave 15 grs. quinine and sleeping draught, if necessary; dietetic treatment of a stimulant character, as above.

Third day. 6 a. m., temperature 99.2°, at which it remained until 11, when it began to rise, attaining its maximum (100.7°) at 7 o'clock. Sixty grains of quinine were given throughout the day, and as the tongue still remained yellow and furred 8 grs. of calomel were prescribed.

Fourth day. Bowels freely moved; temperature 99° in the morning, and remained low all day, only rising to 99.4° in the evening. Fifty grains of quinine given throughout the day.

Fifth day. Temperature remains about 99°. Patient improving, but the weakness remains. Forty grains of quinine given. After this patient had no recurrence of fever, but remained in a low anæmic state, which did not yield to tonic treatment, and a sea-voyage was recommended, during the course of which his health improved rapidly.

The severity of this attack is evident, and brings it under the head of billious remittent fevers, although there was a complete intermission on the second day, but this must be attributed to the antipyrin. The rise of temperature on the second day, *after* the administration of 30 grs. of quinine, is interesting, and is the only instance I have met with, and I believe would not have occurred had I given larger doses of quinine during the intermission. The utility of calomel was well illustrated on the fourth day, where a second dose the previous evening caused a marked amelioration of all the symptoms.—*American Journal of the Medical Sciences.*

THE ANGLE OF THE NECK OF THE FEMUR.—In text books on human anatomy we are taught that the angle formed by the neck of the femur with the shaft becomes lessened as years advance, the level of the head of the bone being consequently lowered. Prof. Humphrey has shown that this theory is inaccurate. After careful observations, recorded in the *Journal of Anatomy and Physiology*, he has come to the conclusion that the angle formed by the neck of the thigh bone with the shaft varies considerably in different persons at any given period of life. It is smaller in short than in long bones, and it is also most likely to be small when the pelvis is wide; the combination of these two conditions rendering it usually smaller in women than in men. The angle decreases during the period of growth, but after growth has been completed it does not usually undergo any change, even if life be continued to extreme old age. Some change may take place in exceptional cases, but as a rule the angle remains the same from the adult period till death, at whatever age death may occur. If, during the growth, the limb be relieved of the weight of the body, as in the bedridden state, in paralysis, or in a stump, the angle of the neck with the shaft usually retains the open form of early life, or may even become wider. Professor Humphrey's conclusions will interest the surgeon, and must never be overlooked in cases where the age of a subject at death has to be estimated by examination of the thigh bone.—*Brit. Med. Jour.*

EDITORIAL.

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IMPROVEMENT IN THE JOURNAL FOR 1890.

Arrangements have been made with our publishers to improve the Journal for 1890. Although we have given to our readers more than the income from subscribers would justify, from a business view, we are not satisfied with the general appearance of our issue in typography and paper, and have procured a complete new outfit, expecting to present a much improved Journal.

It may not be out of place to mention something of our difficulties. In the very beginning, adopting the title of North Carolina

MEDICAL JOURNAL really restricted our issue largely to this State: for while the republic of medicine is an immense domain, and cannot be restricted by State lines, readers naturally conclude that a Journal with a distinctive State title will be taken up with local medical politics and Society matters. The field, therefore, has been so restricted that our support has been a meagre one, leaving the editors no great deal for their work. It has been necessary to do as much to secure advertiser's patronage as possible, as their pecuniary aid was a great necessity in the earlier days of the JOURNAL, and even now advertisers are our best supporters. How much we owe to their liberality we need not say, but enough to make it sure that we will always try to make it mutually advantageous in the future, and at the same time, avoiding the insertion of any advertisement not in accordance with our ethical obligations.

The JOURNAL, for the first time, is making extra efforts to extend its circulation. The issue for January will be a large one, and we hope to add many new names to our list, and, in order to do this, we ask every doctor to interest himself by sending in at least one new subscriber, and for every two new subscribers sent us we will credit his own subscription with one dollar; for three, one dollar and a half.

The help which our friends hoped we would get out of the adoption of the JOURNAL as the official organ of the Medical Society of North Carolina has been small. In truth, the JOURNAL has been the Society *ad interim*, and has on its part brought more friends to the Society than the Society to it. We acknowledge the compliment of the Society and have by all means proven our inseparable interests, and we will show our faith in the future of the Society by making a large expenditure in improving our work in a literary and scientific way, as well as typographically.

We wish for all of our readers a prosperous New Year, and as by the united efforts of the profession we have been enabled to raise our standard to a degree well worthy of our calling, may we all work with renewed courage to cultivate with more thoroughness the new fields we have occupied.

THOSE WHO HAVE FAILED TO REGISTER.

By the time this issue reaches many of readers registration will have closed, and some will have been left out. If it only falls upon the pretender, who has hedged himself behind the clause of the law which admits such as have been practitioners for a number of years, but who assumed the title—as the Rev. Giles Jowles, who dubbed himself "Reverend" like Napoleon crowned himself Emperor"—we will not care; but if it has fallen upon some elderly brother, who has lived so much to himself that he has missed the full force and meaning of the law, or if he has lived in a county where the clerk of the court has been neglectful of his duty in notifying his old family physician, it may be, because he thought the law of no importance, we shall be sorry. But the law is now a fixed fact, and if any one is so purblind as to believe that this reform is going backward, they are already showing signs of being left in the professional race.

We shall not cease from year to year to study the improvements which the law needs, and urge it upon the attention of the profession and the Legislature, as we have done so untiringly before.

Sir James Paget writes thus about prescribing fornication as a cure for sexual disorders: "I would just as soon prescribe theft or lying or anything else that God has forbidden. Chastity does no harm to mind or body, its discipline is excellent; marriage can be waited for, and among the many nervous and hypochondriacal patients who have talked to me about fornication I have never heard one say he was better or happier after it; several said they were worse, and many having failed, have been made worse.—*Selected.*

REVIEWS AND BOOK NOTICES.

A Treatise on Diseases of Nose and Throat. By Francke Huntington Bosworth, A.M., M.D. Vol. I. Diseases of the Nose and Naso-Pharyngeal; with 4 colored plates and 182 woodcuts. New York: William Wood & Co., 56 & 58 La Fayette Place, 1889.

There is no subject upon which the general public have been so generally aroused as upon the dangers of catarrh. Tons of printed matter, on catarrh, pass through the mails to be gratuitously distributed, giving minute instruction upon the nature of catarrh, its dread ravages upon the general system, always concluding with the grand moral, "Buy my infallible catarrh remedy and my none-such atomizer or douche." In such a state of mind as such teaching compels, the offices of physicians in towns and country are more than ever visited by anxious persons seeking to get rid of catarrh. While the quacks are busily occupied in thus inflaming the imagination and reaping thereby large sums, the regular specialists are studying with increased zeal the etiology, pathology and treatment of catarrh. Not even gynecology has a greater run than rhinology just now, and there are scores of men all over the country, in almost every small town, even in the conservative South, frying to a crisp the turbinated bodies at the point of a galvano-cautery loop, and already the sad tales of nasal synechia, denuded bone, and anosmia are beginning to find their way in the Journals, and are still more talked about. At this stage, therefore, a good book is needed-- one by a well equipped and conservative writer of experience—and Dr. Bosworth has fulfilled the duty in a bulky volume of 670 pages.

One not skilled in the specialty of the nose and throat had perhaps better withhold his criticism, but our readers want to know what we as general practitioners think of a volume, and as the purchasers of such books must be largely the rank and file of the profession, our opinion is addressed to them. Much of the volume, that is to say, about 100 pages, is taken up with the anatomy and physiology of the nose and the diagnostic and remedial appliances, and, if we are to judge by our own necessities, we should say it is well done. The different forms of rhinitis—the acute, hypertrophic, purulent (of children), atrophic and croupous, with nasal reflexes—cover nearly 100 pages more, and it is to this part of the volume we must go to learn why all this interest is taken at the present day in diseases of the nose. Hay-fever, or, as the author styles it, vaso-motor rhinitis, and asthma, or vaso-motor bronchitis, are very interesting, and of the many prescriptions for hay-fever we note, as a matter of course, that cocaine is the quite constant ingredient. The author lays down the following, which accounts for his admission of asthma into this volume. Hay-fever is dependent upon three conditions :

" 1st. A neurotic habit, as was conclusively shown by Beard.

" 2d. The presence of pollen in the atmosphere, as shown by the unrivalled experiments of Blackley.

" 3d. A disordered condition of the nasal passages, as shown by Daly.

" Now, the view that I advocate is, that asthma also is dependent on three conditions :

" 1st. A general neurotic condition, as demonstrated by Salter.

" 2d. A diseased condition of the nasal mucous membrane (not bronchial).

" 3d. Some obscure condition of the atmosphere exciting the paroxysms."

There seems to be hardly a general disease of the body that has not some local manifestation in the nose, at least we find descriptions of syphilis, tuberculosis, lupus, etc, etc., and a variety of morbid growths, which make a wide pathological field.

Diseases of the naso-pharynx occupy the second part of the volume, and external surgery of the nose the third section, of 40 pages; this part illustrated with chromo-lithographs.

If our readers will consult this volume they will find that the specialists in this line are advancing, and even the most conservative of them resort to procedures which give comfort and relief to their patients. If we would keep our patients we must learn their arts, and nowhere is it so fully set forth as in this work.

The second volume will be devoted to diseases of the larynx, which will make it a desirable companion volume to the one we have noticed.

A HAND-BOOK OF OBSTETRICAL NURSING. By Anna M. Fullerton, M D. Philadelphia: P. Blakiston, Son & Co, 1012 Walnut Street.

This is an admirable work because it is entirely practical, and written in language that every intelligent nurse could easily understand. The chapters are on "The Signs of Pregnancy," "Management of Pregnancy," "Accidents of Pregnancy," "Preparations for the Labor," "Signs of Approaching Labor and the Process of Labor," "Duties of the Nurse During Labor," "Accidents and Emergencies of Labor," "Car of the New-Born Infant," "Management of the Lying in," "Characteristics of Infancy in Health and Disease," "The Ailments of Early Infancy." We sincerely wish that every nurse could be thoroughly drilled in all the matters contained in this wise little book before they pretend to competency. In the South very few are the white obstetric nurses, and the colored ones know too much already to have any room for such lessons. Now, it remains for expectant mothers to demand more intelligent nursing, and, by the aid of the doctors and the influence of such timely books, we will get them.

A MANUAL OF OBSTETRICS. By A. F. A. King, A.M., M.D. Philadelphia: Lea Brothers & Co., 1889.

This is our first acquaintance with a book which has been before the profession for several years, it having reached four editions in seven years. The clearness of the type and illustrations and the beauty of the paper is enough, alone, to entice one to examine it, and the examination reveals a well condensed "Manual," in the proper sense of the word, full to the brim of just such information as the student wants, and at the modest price of $2.50. The author's experience as a teacher is well shown in his ability in laying down the principles of the science and art of obstetrics, and in making clear diagnostic and operative manipulations.

ESSAY ON MEDICAL PNEUMATOLOGY: A Physiological, Clinical and Therapeutic Investigation of Gases. By J. N. Demarquay. Translated by Samuel S. Wallian, M.D. Philadelphia: F. A. Davis, 1889.

The revival of the use of oxygen as a therapeutic agent seems to have been the impetus which gave this translation to the American profession. Fifty-eight pages are taken up with the history of oxygen, the author's own conclusion being that "of all these efforts very little was permanent," but he believes that we should examine anew all the facts, and so he has given them to us, following it with an account of the physiological action of oxygen. We notice an italicized paragraph by the translator, which seems to us to lack verification : [in the spleen] "The blood can assume its vermilion color without having previously undergone the influence of passage through the lungs." (Page 82.)

The therapeutic action of oxygen, its application to surgery and the methods of making oxygen and determining its purity are all sufficiently described, and the reader investigating the subject may find here just what he wants, although the tone of the translator is not heartily in accord with his subject, at any rate gives the impression that the author is not up to the latest known on the subject. The Bibliography of the subject begins with 'Priestly's Experiments of Different Kinds of Air," 1774, bringing it down to date.

PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES, AN ATLAS AND TEXT COMBINED. By George Henry Fox, A.M., M D. New York : E. B. Treat, 771 Broadway.

Parts 9 and 10 of this admirable series have been on our table for some time, attracting the attention of visitors by their remarkable faithfulness to nature. Nothing more could be desired in the selection of examples of disease or of the execution of the photographic portrait, the effect heightened by the delicate coloring than we have here given us, and as this second series has advanced we have remarked how much superior this one is to the first.

The descriptive text is short and concise, and in some instances is not so full as we desire in a book we must frequently consult, but take it for all in all the parts before us for aids to diagnosis have no equal among the very best publications we know. If the choice lay between Hebra's Atlas and the work of Fox, at the same price, we would give our preference to the latter.

The work is to be finished in 12 parts at $2.00 a part.

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CURRENT LITERATURE.

EPIDEMIC INFLUENZA.

The telegrams from St. Petersburg announcing the existence there of an epidemic affecting a large proportion of the population, probably, describe—some doubts to the contrary, notwithstanding—an outbreak of true epidemic influenza. It is so long since there has been a well-marked general epidemic of the disease in this country, that it may be well to recall some of the characters of this, in many respects, the most typical of epidemic diseases.

Influenza is of all epidemic diseases that which attacks the largest number of people within a given short time; some of the stories of the majority of individuals in large populations being almost simultaneously attacked, are almost incredible, but the sober estimate of the late Dr. Peacock was that more than one-quarter of the whole population of London suffered during the epidemic of 1847–'48; in Paris at that period the proportion was said to be nearer a half. At one time it was supposed that influenza always travelled across Europe from east to west, and, though this has been proved to be very far from invariable, still it is a fact that in several of the great pandemics the disease has been first heard of in Russia; hence it was at one time known in Italy as the German disease, in Germany as the Russian pest, and curiously enough in Russia as the Chinese disease, owing, probably, to the fact that the outbreak there in 1831 had been preceded by a prevalence of the disease in the previous year in China. The theory which has again been given currency in the telegrams from St. Petersburg that epidemic influenza is a forerunner of cholera, need only be mentioned in order that it may be condemned as utterly unfounded. There has been cholera this autumn in Persia, and it may spread into Southern Russia and become even widely extended; but experience of former epidemics has abundantly proved that there is no kind of casual connection. In fact, in nearly every instance in which epidemics of the two diseases have been coincident the influenza has begun after and ended long before the cholera epidemic. If we are forbidden to speak of any coincidence of natural events, we are at least, as Gluge has well said, debarred from applying to it any other term.

The rapidity with which the disease affects one great tract of country after another is so great that Hirsch has been tempted to say of the great pandemics of 1833 and 1837 that many countries were "smitten by the disease as if at one blow." Thus, in the first of these years it overspread Russia in January and February; in March it appeared in Poland, Bohemia, Northern Germany, Denmark, Egypt and Syria; in April it began to prevail in Austria, Hungary, France, Great Britain and Ireland; Tyrol, Dalmatia and Italy suffered in May, the Netherlands in June, and so on. Not only is the epidemic rapid in attaining its maximum, but the symptoms are sudden in their onset; the impression which this suddenness has made on the popular mind is evidenced by some of the names which have been applied to it; thus in parts of Germany it has been called *Blitz-catarrh* (lightning cold), and in France *la grippe*, a word derived from, or closely related to, the verb *gripper*, which signifies to snatch, and is the equivalent in *argot* for our slang "to nab."

The severity of epidemics has varied a good deal, but, as a rule, influenza is a mild disease with a low mortality. The estimated mortality in the epidemic of 1837, which was of a severer type than any other of which statistics exist, was only 2 per cent. The symptoms are, in the majority of cases, those with which every one is familiar under the name of "a common cold," but in an aggravated form. In severe cases there is sharp fever lasting four or five days, or even longer, and generally accompanied not only by the usual symptoms of coryza, but by very marked nervous depression, which may even amount to stupor or delirium. In other cases gastro-intestinal catarrh is a prominent symptom. The most common complication (if, indeed, it may be so called) is bronchitis, to which catarrhal pneumonia may be superadded, or pulmonary œdema or collapse. To these pulmonary lesions, which are most often observed in the very young or the old and feeble, most of the deaths recorded have been attributed.

A very interesting fact with regard to epidemic influenza is that its prevalence in the human race has often been coincident with the prevalence of a similar disease among domestic animals—dogs, cats, cows, and especially horses. In the horse it commences suddenly with sneezing, followed by rigors, fever, bronchitis, and a short dry cough. Many horses may be attacked simultaneously, or almost so, so that in a few days all the horses in a large town, or even throughout an extensive tract of country, may be incapacitated. We read, for instance, of one of the American epizoötics, that "its appearance in a city was followed by the withdrawal of horses and mules from the streets, until the busiest thoroughfares assumed the stillness of the Sabbath."

That this specific influenza of the horse is identical with the human disease which bears the same name cannot be positively affirmed, but the probability of identity is very great. Loew seems to have been the first to point out this coincidence, which he had observed during the epidemic which swept over Europe from Iceland to Sicily, and from Russia to Spain in 1729–'30. In 1758 Dr. Robert Whytt was struck by the fact that an epidemic of influenza in Great Britain was accompanied by a similar disease in horses, and observations pointing in the same direction were subsequently made by Huzard, Gluge, d'Arboval, and many others.

In 1872 there was a widespread outbreak among horses in the United States, followed, early in 1873, by a universal prevalence of the disease among the people of North America. Dr. James C. Wilson, of Philadelphia, during the prevalence of the disease in Canada and the Eastern States in 1880, observed in several localities that "the horses were first affected, the dogs next, and after the lapse of some weeks, as the animals were recovering, the disease became epidemic; but those persons who took care of horses, and were much in contact with them, neither suffered earlier nor more severely than others not so exposed." It is interesting, therefore, to learn that influenza has been prevalent among horses in this country during the last six weeks, and that recently the epizoötic has attained such large proportions that the price of cartage has gone up in the coal and other markets.

The etiology of epidemic influenza bristles with difficulties; we may, however, at once dismiss the idea that it has anything to do with climate, weather or season; this is proved by very numerous facts, but only one need be mentioned here, namely, that in 1837 it prevailed at the same time, and consequently at exactly opposite seasons, in the northern and southern hemispheres, in midwinter in England, and in midsummer at the Cape of Good Hope. That epidemic influenza is a specific infective disease, produced, therefore, by a uniform and specific cause, can hardly be disputed, and is, indeed, admitted by Professor Hirsch, who refuses to believe that it spreads by contagion, and entirely rejects the theory of a *contagium vivum.* Sir Thomas Watson, however, who saw the disease in the great epidemic of 1847–'48, believed that the instances in which influenza had been observed to break out in a town in those houses first at which travellers from infected localities had lodged were too numerous to be mere coincidences. Modern bacteriology has even provided the theory of contagion with a specific micrococcus, which was described by Dr. Siefert, of Würzburg, a few years ago; he found the "influenza-cocci" in the expectoration from all cases of influenza, but not in that from ordinary bronchial catarrh. Transmission by human intercourse, however, will with difficulty serve to explain all the facts; thus Dr. Jones, of Philadelphia, writing in 1826, before the age of railways and steamboats, says: "This epidemic affects a whole region in the space of a week, nay, a whole continent as large as North America, together with all the West Indies, in the course of a few weeks, while the inhabitants could not within so short a time have had any communication or intercourse whatever across such a vast extent of country." A remarkable epidemic on board the French frigate *Duguay-Trouin,* described by Dr. Chaumezière, is also difficult to explain on the theory of human transmission. The epidemic broke out four days after the frigate had sailed from Gorée, in Senegambia, where not a trace of the epidemic had shown itself; while another ship of war which had left Gorée two day earlier arrived at Brest without having had a single case of influenza on board. That the specific cause is, as a rule, carried in the air, is highly probable, and we may be content to speak of it as a miasm, if, to quote Professor Hirsch, "we remember that nothing more is expressed thereby than that which the physicians of the sixteenth and seventeenth centuries called a 'fouling of the air,' and that, in setting up a name in the place of an obscure conception, we do not bring ourselves by that means a single step nearer to a knowledge of the cause of the disease."—*British Medical Journal.*

CREOLIN was taken by a workman, with suicidal intent, in a dose of not less than eight ounces, but he recovered with slight toxic effects.

A NEW ADVANCE IN THE TREATMENT OF UNUNITED FRACTURE.

Every surgeon knows how difficult it is in certain cases to get a broken bone to heal by bony union. The ends may be pegged and hammered and sutured indefinitely without success. In the case of fracture of the radius there are oftentimes special difficulties, since resection—the last resource of the surgeon—leaves a gap between the ends of the radius, which is now shorter than the ulna beside it, and so it is almost impossible to bring the bared ends of the fractured parts into apposition and to keep them there. Even if a piece be cut out of the unfractured ulna, so that the inequality in the length of the two bones is removed, a satisfactory result cannot always be obtained. In the *Lancet*, October 26, 1889, Professor McGill, after commenting upon the above facts and relating his failure with the last-mentioned procedure, explains a new method which he applied successfully in one case, taking the hint from a suggestion made by Dr. MacEwen, who proposed, in case of destruction of the shaft of the humerus by acute necrosis, that a new shaft should be secured by transplantation of bits of new bone.

In Professor McGill's case a man, 20 years of age, had fractured both bones so that the ends of the radius protruded through the wound on the radial side of the forearm. The ulna healed quickly and well, but the radius remained ununited, although the ends had been refreshed and wired three months after the accident. Some eight months afterwards he came to the hospital. He had a scar over the wound, and the ends of the radius were quite movable, the usefulness of forearm and hand being much impaired. An Esmarch's bandage was applied and an incision was made in the line of the old scar. The ends of the bone showed no signs of union, but were rounded and covered by a thick membrane-like periosteum. When this had been filed away an interval of three-quarters of an inch was left between the fragments. This interval was filled with thirteen pieces of bone, each about one-sixth of an inch in length, chiselled from the femur of a freshly killed rabbit. The bones were not wired. The skin-wound was tightly stitched, without drainage, with catgut. Firm pressure was applied by means of salicylated wool and bandages, and the forearm was placed on an anterior splint. There was no suppuration and very little discharge. The patient left hospital in six weeks, with the bone firmly united. Three months later the injured arm was as useful as the other. Is it not possible that this method used by Professor McGill may be of service in the treatment of old ununited fractures in other parts? It is possible that a more vigorous action might be set up, by presence of the implanted healthy bone, than would naturally occur in the fragments of a fractured long-bone in a person of feeble constitution.—*Medical Herald.*

SANITARIA FOR CONSUMPTIVES.

Dr. Paul H. Kretzschmar gives an account of the development and work of the sanitaria for the treatment of consumptives in the United States in a recent issue of the *Medical News.*

Such institutions are, it is admitted, not as a rule necessary for wealthy persons, but those of moderate means can, in many instances, be best taken care of in special institutions where the therapeutic measures can be applied more cheaply on a wholesale plan. In Germany there are a number of hospitals in which consumptives receive treatment. The recent general acceptance of the infectious theory of phthisis has raised some protest against the aggregation of this class of patients, but we do not think that the objections made against them will stand. Phthisis is but slightly contagious, and it seems to be admitted that those who contract the disease must have not only the bacillus, but a favoring soil for its development. Besides this, the measures for preventing the spread of the contagion have been carefully studied out, and are quite well known. The sanitaria for phthisical patients in this country, so far as known, are one at Saranac Lake, one at Asheville, N. C., one at Lake Palmer, Col., one at Colorado Springs, and a camping-out organization which has its headquarters at Santa Fé, New Mexico.

The results of treatment at the Saranac institution, as given by Dr. Trudeau, are certainly very encouraging. He says: "Up to the end of 1888, 146 consumptive patients have been treated, and the results have been about as follows: Deaths 4, or not quite 3 per cent.; failed steadily, 25, about 17 per cent.; stationary or slightly benefited, 38, about 26 per cent.; disease arrested, 63, or 43 per cent.; and cured, 16, or 11 per cent."

The results in the year 1888–'89 are said to have been even still better, about 14 per cent. having been cured and 20 per cent. restored so that they could return to work.

At Saranac the main reliance is placed upon the out-door life. Among drugs, antifebrin and creasote are much used. The pneumatic cabinet is also still employed. At Asheville, oxygen inhalations are given, but creasote has been entirely abandoned, according to Dr. Kretschmar; while Dr. Detweiler constantly uses alcohol, it is not given at the Saranac institution, and only moderately at Asheville.

The following rules, which are placed in the hands of every inmate of the sanitarium at Saranac Lake, can be read with profit by all who have phthisical patients to treat:

Out-of-Door Life.—Patients gradually accustom themselves to leading an out-door life, that is, to remaining eight to ten hours in the open air each day. This should be done gradually, and at first the clothing should be heavy and the exposures to cold or inclement weather moderate in duration. Little by little the open-air sittings and walks are to be increased until the entire day is spent out of doors in all kinds of weather. In stormy weather the sheltered side of the verandas should be used for walking or sitting. When feverish, patients are urged to go out and remain sitting on the verandas well wrapped in suitable clothing.

Exercise.—Violent exercise is injurious. When feverish, patients will do well to make as little exertion as possible. Fatigue, when induced in persons still having active disease, is sure to be followed by loss of appetite, fever, exhaustion, and even sweating. Severe exercise in hot weather is injurious and may be dangerous. Patients will be informed by the physician how much exercise their case requires.

Food.—If unable to eat at the regular meal hours, patients will do well to drink milk every four hours.

Expectoration.—Patients are required always to use the large spittoons in the public rooms and on the verandas, and the pasteboard ones in cottages; the latter should be burned every day in the stoves or fire-places. Expectorating in handkerchiefs or on the floors, or even on the grounds in the immediate vicinity of the buildings, is strictly prohibited.

It has been found that while moist sputum is harmless, when it becomes dried it will rise as dust, and may be inhaled. The above directions are given to guard against this result. Patients, for their own welfare and in order to assist in their rapid recovery, will strictly observe these rules, and will be liable to dismissal for wilful disobedience in this matter, which involves not only their own welfare, but that of others.

Stimulants.—Stimulants are not allowed except under medical advice. No smoking is allowed at any time in the public rooms or on the piazzas. Patients are requested not to smoke at all unless permission is given by the physician.—*Medical Record.*

PROGRESS AT THE UNIVERSITY OF MARYLAND.

Between the powerful stimulus of the Johns Hopkins Hospital and the stringent laws of neighboring States and the impending law in this State, the University of Maryland is about to put into effect some new arrangements both in the medical school and hospital which will be greatly to her credit, even if we suppose that the Faculty was forced to it by the facts above stated. The rapid increase of badly educated physicians has troubled the medical schools least of all; the people, however, grumbled and rebelled, but all in vain. Then all over the country this rumble of discontent has culminated in many States in a downright outcry against the low grade of medical education, and enough influence has been brought to bear on these legislatures to enact and put into action good laws raising this standard. To show what incomplete preliminary training most physicians have had, it is only necessary to read in the past three issues of this *Journal* the carefully prepared and accurate address of Dr. Leartus Connor before the American Academy of Medicine.

The University of Maryland, then, which has made no material advance in a decade or more, is about to lengthen its course and advance its standard. In order to graduate, the applicant must have 75 per cent. as a general average on all branches. If the grade falls below 33 in any one branch, although the general average may be 75, he is conditioned and has to pass a satisfactory examination in the defective branch in the October examination. Formerly a grade of 60 passed a student, so that a dead failure on two or three branches did not necessarily keep him from passing as long as he did well in the others. A preliminary examination on the important English branches or a degree of A.B., or satisfactory evidence of having passed this preliminary examination, is required of all students before entering. These rules will go into effect at once, and, as they will of necessity cut off many students and thereby diminish the income of the Faculty, the latter certainly does deserve some credit, even at this late date.

It is proposed also to make the three-year course compulsory, decrease the number of didactic lectures, increase the number of clinical lectures, lengthen the dispensary hours, so that the different departments will be opened at different hours throughout the day, and thus students may spend more time there taking special courses and examining cases.

In the hospital, the Sisters of Mercy, good women, but untrained as nurses, will leave on December 15th, and a non-sectarian, but trained, matron and a trained head-nurse will take charge at once, the latter having under her a corps of probationers, thus forming the beginning of a training school for nurses. These probationers must comply with certain rules, as in most training schools, and will receive $10 a month in addition to their training.

The next important step which has not been announced, will be the enlarging and remodeling of the hospital. At present one of the Faculty will be the financial manager of the hospital.

There are undoubtedly other good schools in the city, and whether they will see fit to take these steps in advance now and get the credit of raising the general medical standard, or wait until our inactive medical laws go into force and compel them to do it, remains to be seen.

Most readers of the *Journal* are Alumni of the University, and they will hail with delight the proposed advances to be made by their Alma Mater.—*Maryland Medical Journal.*

ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES FOR THE FISCAL YEAR 1889.

This bulky volume of 477 pages is one of marked interest to the general public by reason of the practical matter it contains about the management of yellow fever epidemics, sanitary methods and appliances and quarantine administration, while to the medical man, in addition to the above, there are the most satisfactory of clinical facts from physicians of select ability, laboratory notes upon the large and ever expanding subject of germ-hunting, and over a hundred pages devoted to carefully and systematically performed *post mortem* examinations. The volume also abounds in folding plate illustrations and clinical charts in profusion.

Few Government reports are divested of dry details and elaboration of red-tape methods as this, for from the very beginning we find practical matter on "Diagnosis of Yellow Fever," by Dr. John Guiteras, a name now well-known by the profession of the country in connection with most excellent work in the pathology and treatment of this dread pest.

His opening sentence on the important topic is : "The diagnosis of yellow fever rests upon the three following cardinal symptoms : The facies, the deviation from the general law of correlation between pulse and temperature, and the albuminuria." These points are satisfactorily elaborated. As regards treatment, we looked with some interest to what Dr. Guiteras could say of Dr. Sternberg's suggestion about bichloride solution. He says : "The results obtained by this treatment have not been better than those obtained by symptomatic treatment." * * * "The practitioners who employed the bichloride report that it had a favorable effect upon the albuminuria."

Following Dr. Guiteras' remarks is a report by Dr. C. Fagét, of New Orleans, of his observations on the yellow fever at Camp Perry. We are not going to follow Dr. Fagét in his very full account, but have marked the volume for future references for clinical portraiture of the disease. Here, though, are a few words about the theory of the pathology of the disease : "I believe this peculiar effect of yellow fever on the pulse can be ascribed to the general pathological process, which is, like that of phosphorus poisoning, an acute fatty degeneration of all the tissues: this degeneration affecting the heart's action, either through the degeneration of the muscular fibres or the nervous centres. To this degeneration can also be ascribed the capillary stases, the tendency to hemorrhages in general, but particularly from the mucous membranes of the mouth and stomach.' * * * "To the rapid fatty degeneration of the liver I would attribute the early yellow suffusion of the eyes, also important for the early diagnosis, as it makes its appearance sometimes from the first day."

The mechanical appliances for cleansing and disinfection are on the largest scale ever attempted, consisting of steamers and cars on wheels, to be moved by sea and rail, to the place desired, explained by detailed drawings.

The report of Dr. George M. Sternberg, the renowned bacteriologist upon the "Prevention of Yellow Fever by Inoculation," being an investigation of Frière and Carmona y Valle. The report is a little over 100 pages, but completely demonstrates the utter fallacy of the pretentious claims made by the Brazilian and Mexican microscopists.

In connection with bacteriological subjects, we have neglected to note what to us is a new item, that malarial organisms were found in the same subjects from whom the typhoid bacilli were obtained. In two cases of this mixed infection Dr. Kinyoun, the director of the Marine Hospital Service laboratory, found plasmodium malariæ in the blood, and bacilli in the stools. There, now! are we to go over the old debates on typho-malarial fever upon this new information!

This volume is more than a Government green (not blue) book, and will hardly meet the sad fate of so many Government publications—finding its way to the lumber-room and junk shop for old paper—if the medical profession can have access to it, as it contains very much of scientific material that cannot be had elsewhere. We are not informed how the general profession can obtain it, but presume a limited number might be had by application to the Surgeon-General of the Service.

CURRENT NOTES.

Dr. J. W. Caviness, a licentiate of the Board of Examiners of 1888 at Fayetteville, died recently at his home.

A Bland Creamy Salve, for some purposes an improvement on cold cream (U. S. P.) can be made thus: Goulard's Cerate ʒ ij, Lanoline ℥, Cold Cream Ointment (U. S. Ph.) ℥ j, and is adapted for application to chapped hands and nipples and many household necessities.

Death After Taking Nitrous Oxide—(Probably the First Case (?).—A painful death occurred in a dentist's house in Edinburgh recently. An old lady, of over 75, visited a dentist for the purpose of having a tooth removed for disease of the antrum. The operation was successfully conducted with the aid of nitrous oxide, but, while the cavity was being treated, the patient was observed to lapse into a state of unconsciousness. All efforts at resuscitation proved ineffectual, and, before further medical advice could be obtained, death had resulted. It appears that the patient had suffered previously from weak cardiac action.—*British Medical Journal.*

Comparative Action of the Natural and Artificial Acids and their Sodium Salts.—Drs. Charteris and McClennan (*Brit. Med. Jour.*) made some experimental researches as to the comparative value of the natural and artificial salicylic acid and the salicylates, in which they show that in the artificial acid there is found a foreign substance in a buff-colored powder. It is more soluble than salicylic acid, and when injected in solution into rabbits is poisonous, in the proportion of 2 grs. to a rabbit weighing 14 ozs. The conclusions from their experiments are that artificial salicylic acid contains an impurity or impurities, and until it can be separated it should not be given as a medicine. Large and repeated doses of the drug are needed in the treatment of acute rheumatism, and hence we may account for the restlessness, the confusion and the delirium sometimes attendant on its use, which have been testified by clinical experience. The experimenters declare that prescriptions of the salicylate of sodium are invariably made up, unless otherwise indicated, from the artificial, and not the natural, salt.

CHAS. CHADWICK, Otis R. Wyeth, Louis A. Schoen, George J. Schoen, Chas. F. Hermann, Geo. Eyssell and Horace L. Roy, have been fined $500 and costs for counterfeiting a trade-mark preparation known as Bromidia.—*Kansas City Star*, Oct. 29th, 1889.

HYOSCINE AS A SEDATIVE.—Where morphia and other drugs are inadmissable or without effect, the hydrobromate of hyoscine, given subcutaneously in doses of from 1—100 to 1—50 grs., is said to sometimes produce the happiest results.—*Weekly Medical Review.*

DR. RICHARD K. GREGORY died in Greensborough, after a short illness, on the 18th December. He was a physician of the most versatile talents, possessing inventive skill, restless, and impatient of ethical restraints, but always a physician. We only know of his death by a news clipping from a daily paper.

TO MIX VASELINE AND WATER.—Vaseline and water may be mixed by the addition of two drops of castor oil to each gramme of the liquid. By this means iodide of potassium may be introduced into an unguent without danger of decomposition.—*Weekly Medical Review.*

INCOMPATIBILITY OF CERTAIN ANTISEPTIC SUBSTANCES.—The Archives de Pharmacie points out the incompatibility of the following: Corrosive sublimate and iodine; corrosive sublimate and soap; carbolic acid and iodine; carbolic acid and permanganate of potash; iodine and soap; salicylic acid and permanganate of potash; permanganate of potash and oil; soap and glycerin.—*Medical Age.*

MEDICAL EXPERTS.—The Supreme Court of Wisconsin has recently rendered an opinion which is of interest to medical men. The substance of this opinion is that the testimony of a medical witness who has had no practical experience in the treatment of cases of poisoning, and who testifies only from memory and knowledge of what medical works and medical instructors teach on this subject, "is, at best, hearsay, and inadmissable in a criminal trial for murder by poisoning." The general opinion seems to be that this is unjust, but that it is perfectly proper that the lack of practical experience should be considered by the jury, in connection with the expert's other qualifications, in determining the weight to be given to his testimony.—*Weekly Medical Review.*

READING NOTICES.

PARIS EXHIBITION.—W. R. Warner & Co. have received a silver medal at the Paris World's Fair, being the highest of its kind, in recognition of the following claims:

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VEGETABLE ALTERATIVES.—Mercury and iodide of potash, separately or combined, has been the sum total of treatment, it may be said, in serious blood disorders as far back as our knowledge extends, and the patient was fortunate indeed, if, in being cured of his original disease, he escaped the constitutional effects of mercurials and iodides. That a purely vegetable medicine should be discovered, which in all useful qualities supplants mercury and iodides in these cases, and at the same time is so devoid of injurious effects that it may be taken in any quantity and for any length of time without harm, is certainly of great importance.

The experience of the past six years establishes, beyond a doubt, that Succus Alterans (McDade) is such a discovery, and, although Dr. J. Marion Sims had good ground supon which to base his statements made in the *British Medical Journal* in 1882, still he "built better than he knew," and it is doubtful if the great surgeon, in teaching the professional world his wonderful operations, ever performed a greater service than in bringing this remedy to the knowledge of his professional brethren. The good effect of Succus Alterans (McDade) in all diseases of the blood, whether due to some deleterious influence introduced from without, or generated within, are unmistakable, while it seems no less useful in impoverished conditions of the blood and diseases arising therefrom.

The highest authorities unite in support of these views, and confirmatory reports are daily passing into medical history.—*Massachusetts Medical Journal.*

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